Polo Chau

Legal name:
Duen Horng Chau

Associate Professor, School of Computational Science & Engineering
Associate Director, MS in Analytics
Director of Industry Relations, The Institute for Data Engineering and Science
Associate Director of Corporate Relations, The Center for Machine Learning
Georgia Tech

Linkedin Twitter Google Scholar YouTube

Admin: Kevelyn Cormier Financial Managers: Holly Rush
polo@gatech.edu faculty.cc.gatech.edu/~dchau
Office: CODA 1321 404-385-7682 Campus mail code: 4011

POSITIONS

Aug 2024 -	Professor School of Computational Science & Engineering, Georgia Tech
Jul 2021 -	Adjunct Associate Professor School of Interactive Computing, Georgia Tech
Oct 2019 -	Director of Industry Relations Institute for Data Engineering and Science (IDEaS), Georgia Tech
Oct 2019 -	Associate Director of Corporate Relations for Machine Learning The Center for Machine Learning, Georgia Tech
Aug 2018 - Aug 2024	Associate Professor School of Computational Science & Engineering, Georgia Tech
May 2014 -	Associate Director MS in Analytics, Georgia Tech
Aug 2018 - Aug 2021	Machine Learning Area Leader College of Computing, Georgia Tech
Aug 2012 - Aug 2018	Assistant Professor School of Computational Science & Engineering, Georgia Tech
Dec 2012 - Dec 2015	Adjunct Assistant Professor School of Interactive Computing, Georgia Tech

EDUCATION

Aug 2012	**Ph.D. Machine Learning** Carnegie Mellon University Thesis: Data Mining Meets HCI: Making Sense of Large Graphs Award: Carnegie Mellon SCS Dissertation Award, Honorable Mention Committee: Christos Faloutsos, Jason Hong, Niki Kittur, Jiawei Han (UIUC)
May 2010	**M.S. Machine Learning** Carnegie Mellon University
Aug 2005	**Masters of Human-Computer Interaction** Carnegie Mellon University
2004	**B.Eng. Information Engineering (Honors)** The Chinese Univ. of Hong Kong *Online Auction Fraud Detection* Advisor: Prof. Soung-Chang Liew
2000	**Diocesan Boys' School** (high school) Hong Kong

RESEARCH AREAS AND THRUSTS

My research group **Polo Club of Data Science** innovates at the intersection of **machine learning** and **visualization** to synthesize **scalable, interactive, and trustworthy** tools that amplify human's ability to understand and interact with billion-scale data and machine learning models. Our research thrusts include: human-centered AI (interpretable, safe, fair AI; adversarial ML), large graph visualization and mining, cybersecurity and social good. See all our projects at our group website. Some highlights:

Inclusive AI for Everyone: Diffusion Explainer (went viral) and CNN Explainer helps beginners learn deep learning models (went viral; invited to SIGGRAPH), Dodrio compares NLP attention mechanisms with linguistic knowledge, GAN Lab visualizes how generative adversarial network (GAN) works (went viral; with Google), ActiVis enables visual exploration of industry-scale deep neural networks (deployed on Meta's ML platform used by 25% engineers; invited to SIGGRAPH), ManimML (IEEE VIS Best Poster; went viral) communicates ML architectures with animation, Communicating with Interactive Articles examines interactive article design by synthesizing theory from education, journalism, and visualization.

Scalable Visual Discovery for Trustworthy and Interpretable AI: Summit and NeuroCartography scalably summarize and visualize learned concepts, Bluff pinpoints model vulnerabilities, FairVis visually discovers ML bias, Recast audits toxicity detection models, comprehensive survey on visual analytics for deep learning (best for practitioners and new researchers), industry human-AI guidelines comparision.

Protecting AI models: ShapeShifter the first targeted physical attack (highlighted by DARPA as state-of-the-art; with Intel), SHIELD fast and practical defense (KDD Audience Appreciation Award, Runner-up), SkeletonVis reveals temporal and spatial incoherence of attacks, UnMask protects deep learning through robust feature alignment, robust accented speech recognition (with Amazon AWS AI), REST for robust sleep monitoring, ADAGIO for audio defense.

Novel datasets and tools: TIGER for evaluating graph robustness (part of Nvidia Data Science teaching kit), MalNet the largest graph- and image-based security datasets, PEGASUS billion-scale graph mining (Open Source Software World Challenge, Silver Award).

Social good (education, health, human trafficking): Firebird for fire risk prediction (KDD Best Student Paper, Runner-up; with Atlanta Fire Rescue Department), Chronodes for mobile health visual data exploration (ACM TiiS Best Paper, Honorable Mention), CardiacAR for mixed-reality heart surgical planing (with Children's Healthcare of Atlanta), augmented coding (Best Poster, Chinese CHI), mixed-reality for learning programming (IDC Best Work-in-Progress, Honorable Mention), TrafficVis fights human trafficking (VIS Best Poster, Honorable Mention), Argo Scholar for literature exploration in browsers (VIS Best Poster, Honorable Mention), extends Argo Lite, Autograding of D3 visualizations (VIS Best Poster), EnergyVis explores ML model energy consumption, PeopleMap (VIS Best Poster, Honorable Mention), Magic Crop (auto-magically cropping headshot photos)

Cybersecurity & fraud detection: Polonium and Aesop malware detection over 37 billion machine-file relationships (patented and deployed by Symantec; protects 120 million people), Marco (SDM Best Student Paper), NetProbe eBay auction fraud detection (covered by WSJ, USA Today, Washington Post, LA Times, etc.), LatentGesture mobile authentication via touch signatures (covered by Wired, Engadget, Gizmodo, Yahoo News, Atlanta Business Chronicle, etc.), D2M detects adversarial movements in networks (with Microsoft), insider trading pattern discovery (with Securities and Exchange Commission), FairPlay (fraud and malware detection on Google Play).

Large graph visualization and mining: Apolo and Facets for mixed-initiative large graph sensemaking, Visage enables interactive visual graph querying, without writing complex code (SIGMOD Best Demo, Honorable Mention) Vigor summarizes query results.

AWARDS & HONORS

2023 Google Award for Inclusion Research, for *Scaling Up Educators' Capacities: Automating Visualization Assessment via Generative AI*

2023 BMVC Best Poster, for *Robust Principles*

2023 IEEE VIS Best Poster Award, for ManimML

2023 ACL Best Paper, Honorable Mention, for DiffusionDB

2023 Senior Faculty Outstanding Undergraduate Research Mentor Award. Georgia Tech.

2022 IEEE VIS Best Paper, Honorable Mention, for TrafficVis

2022 Outstanding Mid-Career Faculty Research Award. College of Computing, Georgia Tech.

2022 NeuroCartography selected to present at SIGGRAPH'22 as a top IEEE VIS'21 paper (top 1% of 442 submissions)

2021 Best Paper Award, NeurIPS 2021 Workshop on Bridging the Gap: From Machine Learning Research to Clinical Practice (Research2Clinics), for GAM Changer

2021 IEEE VIS Best Poster Award, for autograding of D3 visualization

2021 IEEE VIS Best Poster Honorable Award, for Argo Scholar

2021 IEEE VIS Best Poster Honorable Mention, for TrafficVis

2020 IEEE VIS Best Poster Research Award, Honorable Mention (VAST track), for PeopleMap

2020 Facebook Faculty Research Award. PIs: Srijan Kumar, Polo Chau

2020 CNN Explainer selected to present at SIGGRAPH'21 as the only top IEEE VAST'20 paper

2019 Intel Outstanding Researcher Award

2019 IDC 2019 Best Work-in-Progress, Honorable Mention

2018 ACM TiiS 2018 Best Paper, Honorable Mention

2018 Chinese CHI 2018 Best Poster

2018 KDD Audience Appreciation Award, Runner-up

2018 James D. Lester III Family Award. College of Computing, Georgia Tech.

2018 ActiVis selected to present at SIGGRAPH'18 as the top IEEE VAST'17 paper

2017 SIGMOD 2017 Best Demo, Honorable Mention

2016 KDD 2016 Applied Data Science Best Student Paper, Runner-up

2015 Google Faculty Research Award.

2015 Outstanding Junior Faculty Research Award. College of Computing, Georgia Tech.

2015-16 James Edenfield Faculty Fellowship, with Munmun De Choudhury (IC)

2014 Yahoo Faculty Research and Engagement Program (FREP) Award by Yahoo! Labs. (GT press releases 1 & 2)

2014-15 Raytheon Faculty Fellowship, with Rahul Basole (IC).

2014 SIAM Data Mining (SDM) 2014 Best Student Paper award

2014 LexisNexis Dean's Excellence Award

2012 **Carnegie Mellon School of Computer Science Dissertation Award, Honorable Mention**

2010 **Open Source Software World Challenge, Silver Award (3rd place)**, for the PEGASUS project which mines billion-node graphs. U Kang, Duen Horng Chau, Christos Faloutsos

2009 - 2010 **Symantec Research Labs Graduate Fellowship**, covers full tuition and stipend. Re-selected, as one of the only three graduate students worldwide to receive the award.

2009 **Yahoo! Key Scientific Challenges Award**, in Information Retrieval, Algorithms, and Data Mining.

2008 - 2009 **Symantec Research Labs Graduate Fellowship**, covers full tuition and stipend.

2008 **Winner**, Symantec research competition (internal).

2006 **Best Presentation Award, 3rd Place**, PKDD'06.

2001, 2002, 2003 Dean's List

2002, 2003 Nominated for university scholarships

INDUSTRY POSITIONS & EXPERIENCES

Summer 2014 **eBay, Search Science** San Jose
Visiting Professor

Summer - Fall 2011 **Google, Ads Backend Team** Mountain View, CA
Ph.D. Software Engineer Intern Mentor: Dr. Arun Swami

Fall 2009 **Symantec Research Labs** Los Angeles, CA
Ph.D. Research Intern Mentor: Mr. Carey Nachenberg

Summer 2008 **Symantec Research Labs** Los Angeles, CA
Ph.D. Research Intern Mentor: Mr. Darren Shou

2005 - 2007 **Carnegie Mellon University, Human-Computer Interaction Institute** Pittsburgh, PA
Research Associate Supervisor: Prof. Brad Myers

Summer 2003 **The Chinese University of Hong Kong**, Lightwave Communications Lab Hong Kong
Undergraduate Research Assistant

2002 - 2007 Elfware Company Hong Kong
System Consultant

OUTREACH INVITED TALKS & ACTIVITIES

Nov 10, 2023 Mentor, EECS Rising Stars

Mar 18, 2021 **Perspectives on the state-of-the-art visual analytics**. NSF convergence meeting on Analysis & Visualization for *The Future of Quantitative Research in the Social Sciences*. Host: Prof. Lisa Singh, Computer Science, Georgetown University.

Mar 17, 2021 **Towards Secure and Interpretable AI: Scalable Methods, Interactive Visualizations, and Practical Tools**. *American Physical Society (APS) March Meeting* 2021.

May 22, 2021 Working and Studying Aboard (in USA). Information Engineering Alumni Association (IEAA), The Chinese University of Hong Kong. Host: Albert Au Yeung.

Nov 10, 2020 IDEaS panel on **Getting Started in Data Science and Machine Learning** (panelist), Georgia Tech

July 28, 2020 **Teaching Databricks in the Classroom**

May 27, 2020 Education panel on **Visualization for Data Science** (panelist), Eurographis & EuroVis 2020

Mar 20, 2020 **Accelerated Data Science in the Classroom: Teaching Analytics and Machine Learning with RAPIDS** at Nvidia *GPU Technology Conference (GTC)* 2020.

Dec 12, 2019 **Ask A Prof!** inaugural blog post of On *Teaching and Learning @ Georgia Tech*

Jul 9, 2019 **Undergraduate Research Faculty Panel** (panelist), Georgia Tech

Jun 4, 2019 **Visual Data Analytics** tutorial. Smart Grid Edge Analytics Workshop, Georgia Tech

Aug 8, 2019 **Visual Data Analytics** tutorial. Foundation of Data Science – Summer School 2019, Georgia Tech

Sept 26, 2018 Hands-on augmented reality (AR) research demonstration for elementary school students from Charles R. Drew Charter School, using Microsoft HoloLens

Aug 6, 2018 **Introduction to Machine Learning**. Summer workshop on data and scientific computing, Georgia Tech

Aug 1, 2017 **Introduction to Machine Learning**. Summer workshop on data and scientific computing, Georgia Tech

Mar 6, 2017 **10 Lessons Learned from Working with Tech Companies**. Undergraduate Consulting Club, Georgia Tech

Apr 16, 2016 **10 Lessons Learned from Working with Tech Companies**. Hacklytics, organized by Georgia Tech undergraduate students.

Jun 16, 2015 **The Internet of Things (IoT) Joins the Enterprise: Strategies for Managing & Using All That Data**. All Analytics Academy.

May 21, 2015 **Catching Bad Guys with Graph Mining and Visualization**. Center of Academic Excellence (NSA)

Jun 13, 2014 **Graph Mining meets Human-Computer Interaction**. DIMACS REU Tutorial. Rutgers University.

Jun 20, 2013 **Making sense of big data: combining data mining and visualization** Teachers Workshop (CS Principles - Big Ideas), organized by Institute for Computing Education (ICE), a partnership between the Georgia Department of Education and the College of Computing at Georgia Tech.

TEACHING

Courses **CSE6242/CX4242: Data and Visual Analytics**, Georgia Tech. 1000+ students enrolled in each recent semester. Teaching it since 2013.

Computing for Data Analytics: Methods and Tools, CSE 6040, Fall 2014. Georgia Tech. Co-taught with Dr. Da Kuang.

Bee-Snap, an undergraduate cross-semester **VIP project course (Vertically Integrated Projects)**. Georgia Tech. ECE-2811-VV4, ECE-3811-VV4, ECE-3812-VV4, ECE-4811-VV4, ECE-4812-VV4.

Introduction to Computational Science and Engineering. CSE 6001, Fall 2013, Georgia Tech. Co-taught with Rich Vuduc.

Tutorials **HCI Meets Data Mining: Principles and Tools for Big Data Analytics**. Polo Chau. ACM Conference on Human Factors in Computing Systems (CHI) 2014. Toronto, Canada. April 24-May 1, 2014.

Big Graph Mining for the Web and Social Media. U Kang, Leman Akoglu, Polo Chau. The 7th ACM International Conference on Web Search and Data Mining (WSDM2014). New York City. February 24, 2014.

Big Graph Mining: Algorithms, Anomaly Detection, and Applications. U Kang, Leman Akoglu, Polo Chau. The 2013 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM). Niagra Falls, Canada, Aug 25-28, 2013.

PhD Consort. Mentor IEEE International Conference on Big Data (IEEE BigData 2014)

Guest lectures **Information Visualization (CS7450)**. Instructor: Prof. Alex Endert. Fall 2014. Georgia Tech.

Data Mining for Malware Detection and Fraud Detection. Computing and Society (CS 4001). Instructor: Prof. Jimeng Sun. Spring 2014. Georgia Tech.

Web-scale malware detection & fraud detection, and **Interactive graph exploration & mining** for *Massive Graph Analytics* (CSE 8803

MGA). Instructor: Prof. David Bader. Fall 2012. Georgia Tech.

Data Warehousing and Data Mining for *Database Applications (15-415)*.
Instructor: Prof. Christos Faloutsos. Spring 2012. Carnegie Mellon University.

Web Search for *Science of the Web (15-396)*.
Instructor: Prof. Luis von Ahn, Brendan Meeder. Fall 2011. Carnegie Mellon University.

Making Sense of Large Networks for *Sensemaking: Cognitive, Social, and Technical Perspectives (05-899)*.
Instructor: Prof. Niki Kittur. Spring 2011. Carnegie Mellon University.

Teaching Assistant

Science of the Web (15-396).
Instructor: Prof. Luis von Ahn, Brendan Meeder. Fall 2011. Carnegie Mellon University.

Multimedia Databases and Data Mining (15-826).
Instructor: Prof. Christos Faloutsos. Spring 2010. Carnegie Mellon University.

PUBLICATIONS

Interactive Articles

Communicating with Interactive Articles. Fred Hohman, Matthew Conlen, Jeffrey Heer, Duen Horng (Polo) Chau. *Distill, 2020*. Article Code

Journal

TrafficVis: Visualizing Organized Activity and Spatio-Temporal Patterns for Detecting Human Trafficking. Catalina Vajiac, Duen Horng Chau, Andreas Olligschlaeger, Rebecca Mackenzie, Pratheeksha Nair, Meng-Chieh Lee, Yifei Li, Namyong Park, Reihaneh Rabbany, Christos Faloutsos. *IEEE Transactions on Visualization and Computer Graphics (Proc. VIS'22), 2023*. PDF IEEE

Best Paper, Honorable Mention

Back-calculation of soil parameters from displacement-controlled cavity expansion under geostatic stress by FEM and machine learning. Fernando Patino-Ramirez, Zijie Jay Wang, Duen Horng Chau, Chloe Arson. Acta Geotechnica. 18, 1755–1768. 2023. PDF

Graph Vulnerability and Robustness: A Survey. Scott Freitas, Diyi Yang, Srijan Kumar, Hanghang Rong, Duen Horng Chau. IEEE Transactions on Knowledge and Data Engineering (TKDE) 2022. PDF

A Cluster-then-label Approach for Few-shot Learning with Application to Automatic Image Data Labeling. Renzhi Wu, Nilaksh Das, Sanya Chaba, Sakshi Gandhi, Duen Horng Chau, Xu Chu. ACM Journal of Data and Information Quality (JDIQ). 14.3 (2022): 1-23. PDF

The Role of Interactive Visualization in Fostering Trust in AI. Emma Beauxis-Aussalet, Michael Behrisch, Rita Borgo, Duen Horng Chau, Christopher Collins, David Ebert, Mennatallah El-Assady, Alex Endert, Daniel A. Keim, Jörn Kohlhammer, Daniela Oelke, Jaakko Peltonen, Maria Riveiro, Tobias Schreck, Hendrik Strobelt, Jarke J. van Wijk. *IEEE Computer Graphics and Applications* 41, no. 6 (2021): 7-12. PDF

Detection of Emerging Drugs Involved in Overdose via Diachronic Word Embeddings of Substances Discussed on Social Media. Austin P. Wright, Christopher M. Jones, Duen Horng Chau, Robert M. Gladden, Steven A. Sumner. *Journal of Biomedical Informatics (JBI)*, Volume 119, July 2021. PDF

NeuroCartography: Scalable Automatic Visual Summarization of Concepts in Deep Neural Networks. Haekyu Park, Nilaksh Das, Rahul Duggal, Austin P. Wright, Omar Shaikh, Fred Hohman, Duen Horng (Polo) Chau. *IEEE Transactions on Visualization and Computer Graphics (Proc. VIS'21), 2022*. PDF Demo Code

Invited to present at SIGGRAPH'22 as a top VIS'21 paper (1% of 442 submissions)

RECAST: Enabling User Recourse and Interpretability of Toxicity Detection Models with Interactive Visualization. Austin P. Wright, Omar Shaikh, Haekyu Park, Will Epperson, Muhammed Ahmed, Stephane Pinel, Diyi Yang, Duen Horng (Polo) Chau. *Proceedings of the ACM on Human-Computer Interaction*, Volume 5, Issue CSCW1, April 2021. Presented at The 24th ACM Conference on *Computer-Supported Cooperative Work and Social Computing (CSCW)* 2021. PDF

A Survey of Human-Centered Evaluations in Human-Centered Machine Learning. Fabian Sperrle, Mennatallah El-Assady, Grace Guo, Rita Borgo, Duen Horng Chau, Alex Endert, Daniel Keim. *Computer Graphics Forum (CGF)*, Vol. 40. No. 3. 2021. Presented at *EuroVis'21*. PDF

CNN Explainer: Learning Convolutional Neural Networks with Interactive Visualization. Zijie J. Wang, Robert Turko, Omar Shaikh, Haekyu Park, Nilaksh Das, Fred Hohman, Minsuk Kahng, and Duen Horng (Polo) Chau. *IEEE Transactions on Visualization and Computer Graphics (Proc. VIS'20), 2021*. PDF Demo YouTube Code

Went viral! 5700 Github stars — top of Github Trending

The only VAST'20 paper invited to SIGGRAPH

Towards De-Anonymization of Google Play Search Rank Fraud. Mizanur Rahman, Nestor Hernandez, Bogdan Carbunar, Duen Horng (Polo) Chau. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*. Feb, 2020. PDF

Summit: Scaling Deep Learning Interpretability by Visualizing Activation and Attribution Summarizations. Fred PDF Demo

Hohman, Haekyu Park, Caleb Robinson, Duen Horng (Polo) Chau. *IEEE Transactions on Visualization and Computer Graphics (Proc. VAST'19)*. 2020. YouTube Code

GAN Lab: Understanding Complex Deep Generative Models using Interactive Visual Experimentation. Minsuk Kahng, Nikhil Thorat, Duen Horng (Polo) Chau, Fernanda B. Viégas, and Martin Wattenberg. *IEEE Transactions on Visualization and Computer Graphics (Proc. VAST'18)*. 2019. Demo PDF YouTube

Went viral! Open sourced with Google AI

Visual Analytics in Deep Learning: An Interrogative Survey for the Next Frontiers. Fred Hohman, Minsuk Kahng, Robert Pienta, Duen Horng Chau. *IEEE Transactions on Visualization and Computer Graphics, 2018*. PDF Site Blog

Chronodes: Interactive Multi-focus Exploration of Event Sequences. Peter J. Polack, Shang-Tse Chen, Minsuk Kahng, Kaya De Barbaro, Rahul Basole, Moushumi Sharmin, Duen Horng (Polo) Chau. *ACM Transactions on Interactive Intelligent Systems (TiiS) Special Issue on Interactive Visual Analysis of Human and Crowd Behaviors*. 2018. PDF YouTube

ACM TiiS 2018 Best Paper, Honorable Mention

ActiVis: Visual Exploration of Industry-Scale Deep Neural Network Models. Minsuk Kahng, Pierre Andrews, Aditya Kalro, Duen Horng (Polo) Chau. *IEEE Transactions on Visualization and Computer Graphics (Proc. VAST'17)*. Jan 2018. [21% acceptance rate] PDF

Deployed on Facebook Machine Learning platform used by 25% engineers

Invited to present at SIGGRAPH 2018 as a top VAST'17 paper (4 total)

VIGOR: Interactive Visual Exploration of Graph Query Results. Robert Pienta, Fred Hohman, Alex Endert, Acar Tamersoy, Kevin Roundy, Chris Gates, Shamkant Navathe, Duen Horng (Polo) Chau. *IEEE Transactions on Visualization and Computer Graphics (Proc. VAST'17), Jan 2018*. [21% acceptance rate] PDF

Search Rank Fraud and Malware Detection in Google Play. Mahmudur Rahman, Mizanur Rahman, Bogdan Carbunar, Duen Horng Chau. *IEEE Transactions on Knowledge and Data Engineering (TKDE)* 29(6), 1329. 2017 PDF

Constraint based temporal event sequence mining for Glioblastoma survival prediction. Kunal Malhotra, Shamkant Navathe, Duen Horng Chau, Costas Hadjipanayis and Jimeng Sun. *Journal of biomedical informatics*, 16, 267-275. 2016 PDF

Center of excellence for mobile sensor Data-to-Knowledge (MD2K). Santosh Kumar, Gregory D. Abowd, William T. Abraham, Mustafa al'Absi, J. Gayle Beck, Duen Horng Chau, Tyson Condie, David E. Conroy, Emre Ertin, Deborah Estrin, Deepak Ganesan, Cho Lam, Benjamin Marlin, Clay B. Marsh, Susan A. Murphy, Inbal Nahum-Shani, Kevin Patrick, James M. Rehg, Moushumi Sharmin, Vivek Shetty, Ida Sim, Bonnie Spring, Mani Srivastava and David W. Wetter. *Journal of the American Medical Informatics Association (JAMIA)* Jul 2015. DOI: 10.1093/jamia/ocv056 PDF

Node Immunization on Large Graphs: Theory and Algorithms. Chen, C. and Tong, H. and Prakash, B.A. and Tsourakakis, C. and Eliassi-Rad, T. and Faloutsos, C. and Chau, D.H. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 28(1), 113-126. 2015 PDF

To Catch a Fake: Curbing Deceptive Yelp Ratings and Venues. Mahmudur Rahman, Bogdan Carbunar, Jaime Ballesteros, Duen Horng (Polo) Chau. *Statistical Analysis and Data Mining: The ASA Data Science Journal*, 8(3), 147-161. 2015. PDF

Understanding variations in pediatric asthma care processes in the emergency department using visual analytics. Rahul C. Basole, Mark L. Braunstein, Vikas Kumar, Hyunwoo Park, Minsuk Kahng, Duen Horng (Polo) Chau, Acar Tamersoy, Daniel A. Hirsh, Nicoleta Serban, James Bost, Burton Lesnick, Beth L. Schissel, Michael Thompson. *Journal of the American Medical Informatics Association (JAMIA)* 2015. DOI: 10.1093/jamia/ocu016 PDF

GLO-STIX: Graph-Level Operations for Specifying Techniques and Interactive eXploration. Charles D. Stolper, Minsuk Kahng, Zhiyuan Lin, Florian Foerster, Aakash Goel, John Stasko, and Duen Horng Chau. *IEEE Transactions on Visualization and Computer Graphics*, 20(12), 2320-2328. 2014. PDF YouTube Code

SharkFin: Spatio-temporal mining of software adoption and penetration. Evangelos E. Papalexakis, Tudor Dumitras, Duen Horng Chau, B. Aditya Prakash, Christos Faloutsos. *Social Network Analysis and Mining (SNAM)*, 4(1), 1-15. 2014. PDF

Large Scale Insider Trading Analysis: Patterns and Discoveries. Acar Tamersoy, Elias Khalil, Bo Xie, Stephen L. Lenkey, Bryan R. Routledge. Duen Horng Chau, Shamkant B. Navathe. *Social Network Analysis and Mining (SNAM)*, 4(1), 1-17. 2014. PDF

Preprints

Mobile Fitting Room: On-device Virtual Try-on via Diffusion Models. Justin Blalock, David Munechika, Harsha Karanth, Alec Helbling, Pratham Mehta, Seongmin Lee, Duen Horng Chau. arXiv. PDF

Point and Instruct: Enabling Precise Image Editing by Unifying Direct Manipulation and Text Instructions. Alec Helbling, Seongmin Lee, Polo Chau. arXiv. PDF

UniTable: Towards A Unified Framework For Table Structure Recognition Via Self-Supervised Pretraining. ShengYun Peng , Seongmin Lee, Xiaojing Wang, Raji Balasubramaniyan, Duen Horng Chau. PDF

Conference

Energy Transformer. Benjamin Hoover, Yuchen Liang, Bao Pham, Rameswar Panda, Hendrik Strobelt, Duen Horng Chau, Mohammed J. Zaki, Dmitry Krotov. NeurIPS 2023. PDF

Robust Principles: Architectural Design Principles for Adversarially Robust CNNs. ShengYun Peng, Weilin Xu, Cory Cornelius, Matthew Hull, Kevin Li, Rahul Duggal, Mansi Phute, Jason Martin, Duen Horng Chau. British Machine Vision Conference (BMVC) 2023.
Best Poster

Concept Evolution in Deep Learning Training: A Unified Interpretation Framework and Discoveries. Haekyu Park, Seongmin Lee, Benjamin Hoover, Austin P. Wright, Omar Shaikh, Rahul Duggal, Nilaksh Das, Kevin Li, Judy Hoffman, Duen Horng Chau. CIKM 2023. PDF

VisGrader: Automatic Grading of D3 Visualizations. Matthew Hull, Vivan Pednekar, Hannah Murray, Nimisha Roy, Emmanuel Tung, Susanta Routray, Connor Guerin, Justin Chen, Zijie J. Wang, Seongmin Lee, Mahdi Roozbahani, Duen Horng (Polo) Chau . VIS 2023. PDF

DiffusionDB: A Large-scale Prompt Gallery Dataset for Text-to-Image Generative Models. Zijie J. Wang, Evan Montoya, David Munechika, Haoyang Yang, Benjamin Hoover, Duen Horng (Polo) Chau. ACL, Jul 2023. PDF
Best Paper, Honorable Mention

GAM Coach: Towards Interactive and User-centered Algorithmic Recourse. Zijie J. Wang, Jennifer Wortman Vaughan, Rich Caruana, Duen Horng (Polo) Chau. CHI, Apr 2023. PDF ACM

Lessons from the Development of an Anomaly Detection Interface on the Mars Perseverance Rover using the ISHMAP Framework. Austin P Wright, Peter Nemere, Adrian Galvin, Duen Horng Chau, Scott Davidoff. IUI, Mar 2023. PDF ACM

Explaining Website Reliability by Visualizing Hyperlink Connectivity. Seongmin Lee, Sadia Afroz, Haekyu Park, Zijie J. Wang, Omar Shaikh, Vibhor Sehgal, Ankit Peshin, Duen Horng Chau. VIS, Oct 2022. PDF IEEE

Visual Auditor: Interactive Visualization for Detection and Summarization of Model Biases. David Munechika, Zijie J. Wang, Jack Reidy, Josh Rubin, Krishna Gade, Krishnaram Kenthapadi, Duen Horng Chau. VIS, Oct 2022. PDF

TimberTrek: Exploring and Curating Trustworthy Decision Trees with Interactive Visualization. Zijie J. Wang, Chudi Zhong, Rui Xin, Takuya Takagi, Zhi Chen, Duen Horng Chau, Cynthia Rudin, Margo Seltzer. VIS, Oct 2022. PDF

Interpretability, Then What? Editing Machine Learning Models to Reflect Human Knowledge and Values. Zijie J. Wang, Alex Kale, Harsha Nori, Peter Stella, Mark Nunnally, Duen Horng Chau, Mihaela Vorvoreanu, Jennifer Wortman Vaughan, Rich Caruana. KDD, Aug 2022. PDF

Hear No Evil: Towards Adversarial Robustness of Automatic Speech Recognition via Multi-Task Learning. Nilaksh Das, Duen Horng Chau. Interspeech, Sep 2022. PDF

MalNet: A Large-Scale Image Database of Malicious Software. Scott Freitas, Rahul Duggal, Duen Horng Chau. CIKM 2022. PDF

Context-aware Traffic Flow Forecasting in New Roads. Namhyuk Kim, Dong-Kyu Chae, Jung Ah Shin, Sang-Wook Kim, Duen Horng Chau, Sunghwan Park. CIKM 2022.

Listen, know and spell: Knowledge-infused subword modeling for improving ASR performance of out-of-vocabulary (OOV) named entities. Nilaksh Das, Monica Sunkara, Dhanush Bekal, Duen Horng Chau, Sravan Bodapati, Katrin Kirchhoff. *ICASSP, 2022*. PDF

A Search Engine for Discovery of Scientific Challenges and Directions. Dan Lahav, Jon Saad Falcon, Bailey Kuehl, Sophie Johnson, Sravanthi Parasa, Noam Shomron, Duen Horng Chau, Diyi Yang, Eric Horvitz, Daniel S. Weld, Tom Hope. *AAAI, 2022*. PDF

A Large-Scale Database for Graph Representation Learning. Scott Freitas, Yuxiao Dong, Joshua Neil, Duen Horng (Polo) Chau. *Neural Information Processing Systems (NeurIPS), 2021*. PDF Data Code
Oral Presentation

Evaluating Graph Vulnerability and Robustness using TIGER. Scott Freitas, Diyi Yang, Srijan Kumar, Hanghang Tong, Duen Horng (Polo) Chau. *ACM International Conference on Information and Knowledge Management (CIKM), 2021*. PDF YouTube Code
Featured in Nvidia Data Science Toolkit

HAR: Hardness Aware Reweighting for Imbalanced Datasets. Rahul Duggal, Scott Freitas, Sunny Dhamnani, Duen Horng Chau, Jimeng Sun. *IEEE BigData 2021*. PDF

CUP: Cluster Pruning for Compressing Deep Neural Networks. Rahul Duggal, Cao Xiao, Richard Vuduc, Duen Horng Chau, Jimeng Sun. *IEEE BigData 2021*. PDF

Best of Both Worlds: Robust Accented Speech Recognition with Adversarial Transfer Learning. Nilaksh Das, Sravan Bodapati, Monica Sunkara, Sundararajan Srinivasan, Duen Horng Chau. *Interspeech 2021*. PDF YouTube

AR-CF: Augmenting Virtual Users and Items in Collaborative Filtering for Addressing Cold-Start Problems. Dong-Kyu Chae, Jihoo Kim , Duen Horng Chau, Sang-Wook Kim. *ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR)*. 2020. PDF

Bluff: Interactively Deciphering Adversarial Attacks on Deep Neural Networks. Nilaksh Das*, Haekyu Park*, Zijie Jay PDF YouTube

Wang, Fred Hohman, Robert Firstman, Emily Rogers, and Duen Horng Chau. *IEEE Visualization Conference (VIS)* 2020. * Authors contributed equally. Code

How Does Visualization Help People Learn Deep Learning? Evaluating GAN Lab with Observational Study and Log Analysis. Minsuk Kahng, Duen Horng (Polo) Chau. *IEEE Visualization Conference (VIS)* 2020. PDF YouTube

Examining the Ordering of Rhetorical Strategies in Persuasive Requests. Omar Shaikh, Jiaao Chen, Jon Saad-Falcon, Polo Chau, and Diyi Yang. *Findings of EMNLP (Conference on Empirical Methods in Natural Language Processing), 2020*. PDF

Argo Lite: Open-Source Interactive Graph Exploration and Visualization in Browsers. Siwei Li, Zhiyan Zhou, Anish Upadhayay, Omar Shaikh, Scott Freitas, Haekyu Park, Zijie J. Wang, Susanta Routray, Matthew Hull, Duen Horng Chau. *Proceedings of the International Conference on Information and Knowledge Management (CIKM), 2020*. PDF Demo Code

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Exploratory Visual Analytics of Mobile Health Data: Sensemaking Challenges and Opportunities. Peter J Polack Jr, Moushumi Sharmin, Kaya de Barbaro, Minsuk Kahng, Shang-Tse Chen, and Duen Horng Chau. *Mobile Health: Sensors, Analytic Methods, and Applications*. Springer. 2017.

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GAM Changer: Editing Generalized Additive Models with Interactive Visualizations. Zijie J. Wang, Alex Kale, Harsha Nori, Peter Stella, Mark Nunnally, Duen Horng (Polo) Chau, Mihaela Vorvoreanu, Jennifer Wortman Vaughan, Rich Caruana. NeurIPS 2021 Workshop on *Bridging the Gap: From Machine Learning Research to Clinical Practice (Research2Clinics)*. PDF Demo Code YouTube

Best Paper Award

A Comparative Analysis of Industry Human-AI Interaction Guidelines. Austin P. Wright, Zijie J. Wang, Haekyu Park, Grace Guo, Fabian Sperrle, Mennatallah El-Assady, Alex Endert, Daniel Keim, Duen Horng (Polo) Chau. IEEE VIS 2020 Workshop on *Trust and Expertise in Visual Analytics (TREX)*. PDF

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Tiny Papers (ICLR)	**LLM Self Defense: By Self Examination, LLMs Know They Are Being Tricked**. Mansi Phute, Alec Helbling, Matthew Daniel Hull, ShengYun Peng, Sebastian Szyller, Cory Cornelius, Duen Horng (Polo) Chau. ICLR 2024 Tiny Paper. Adopted by ADP, the leading company in human capital management (HCM) solutions, for content moderation	PDF
	Revamp: Automated Simulations of Adversarial Attacks on Arbitrary Objects in Realistic Scenes. Matthew Daniel Hull, Zijie J. Wang, Duen Horng Chau. ICLR 2024 Tiny Paper.	PDF
Poster Papers	**SuperNOVA: Design Strategies and Opportunities for Interactive Visualization in Computational Notebooks**. Zijie J. Wang, David Munechika, Seongmin Lee, Duen Horng Chau. *Extended Abstracts, CHI 2024*.	PDF
	ARCollab: Towards Multi-User Interactive Cardiovascular Surgical Planning in Mobile Augmented Reality. Pratham Darrpan Mehta, Harsha Karanth, Haoyang Yang, Timothy C Slesnick, Fawwaz Shaw, Duen Horng Chau. *Extended Abstracts, CHI 2024*.	PDF
	ManimML: Communicating Machine Learning Architectures with Animation. Alec Helbling, Duen Horng Chau. Poster, IEEE VIS 2023. IEEE VIS 2023 Best Poster	PDF Code
	Diffusion Explainer: Visual Explanation for Text-to-image Stable Diffusion. Seongmin Lee, Benjamin Hoover, Hendrik Strobelt, Zijie J. Wang, ShengYun Peng, Austin Wright, Kevin Li, Haekyu Park, Haoyang Yang, Duen Horng (Polo) Chau. Poster, IEEE VIS 2023.	PDF Demo YouTube
	TrafficBoard: Digital Spatio-Temporal Pinboard for Human Trafficking Detection. Catalina Vajiac, Duen Horng Chau, Andreas Olligschlaeger, Pratheeksha Nair, Meng-Chieh Lee, Mirela Cazzolato, Reihaneh Rabbany, Cara Jones, Christos Faloutsos. Poster, IEEE VIS 2023.	PDF
	NOVA: A Practical Method for Creating Notebook-Ready Visual Analytics. Zijie J. Wang, David Munechika, Seongmin Lee, Duen Horng Chau. Poster, IEEE VIS 2022.	PDF
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	NeuroMapper: In-browser Visualizer for Neural Network Training. Zhiyan Zhou, Kevin Li, Haekyu Park, Megan Dass, Austin P Wright, Nilaksh Das, Duen Horng Chau. Poster, IEEE VIS 2022.	PDF
	Evaluating Cardiovascular Surgical Planning in Mobile Augmented Reality. Haoyang Yang, Pratham Darrpan Mehta, Jonathan Leo, Zhiyan Zhou, Megan Dass, Anish Upadhayay, Timothy C Slesnick, Fawwaz Shaw, Amanda Randles, Duen Horng Chau. Poster, IEEE VIS 2022.	PDF
	VisPaD: Visualization and Pattern Discovery for Fighting Human Trafficking. Pratheeksha Nair, Yifei Li, Catalina Vajiac, Andreas Olligschlaeger, Meng-Chieh Lee, Namyong Park, Duen Horng Chau, Christos Faloutsos, Reihaneh Rabbany. Poster, WWW 2022.	PDF
	MisVis: Explaining Web Misinformation Connections via Visual Summary. Seongmin Lee, Sadia Afroz, Haekyu Park, Zijie J. Wang, Omar Shaikh, Vibhor Sehgal, Ankit Peshin, Duen Horng (Polo) Chau. Extended Abstracts, CHI 2022.	PDF
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	Towards Automatic Grading of D3.js Visualizations. Matthew Hull, Connor Guerin, Justin Lu Chen, Susanta Kumar Routray, Duen Horng Chau. *Poster Abstract. IEEE VIS 2021*. IEEE VIS 2021 Best Poster	PDF Poster YouTube
	Argo Scholar: Interactive Visual Exploration of Literature in Browsers. Kevin Li, Haoyang Yang, Anish Upadhayay, Zhiyan Zhou, Jon Saad-Falcon, Duen Horng Chau. *Poster Abstract. IEEE VIS 2021*. IEEE VIS 2021 Best Poster, Honorable Mention	PDF Demo YouTube Code
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	Interactive Cardiovascular Surgical Planning via Augmented Reality. Jonathan Leo, Zhiyan Zhou, Haoyang Yang, Anish Upadhayay, Timothy C. Slesnick, Fawwaz Shaw, Duen Horng Chau. *Asian CHI Symposium 2021*.	PDF
	EnergyVis: Interactively Tracking and Exploring Energy Consumption for ML Models. Omar Shaikh, Jon Saad-Falcon, Austin P. Wright, Nilaksh Das, Scott Freitas, Omar Isaac Asensio, Duen Horng (Polo) Chau. *Extended Abstracts,*	PDF YouTube Code

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Mapping Researchers with PeopleMap. Jon Saad-Falcon, Omar Shaikh, Zijie J. Wang, Austin P. Wright, Sasha Richardson, Duen Horng (Polo) Chau. *Poster Abstract, IEEE VIS 2020*.
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CNN 101: Interactive Visual Learning for Convolutional Neural Networks. Zijie J. Wang, Robert Turko, Omar Shaikh, Haekyu Park, Nilaksh Das, Fred Hohman, Minsuk Kahng, Duen Horng (Polo) Chau. *Extended Abstracts, CHI 2020*. Apr 25-30, Honolulu, Hawaii, USA.
PDF

Massif: Interactive Interpretation of Adversarial Attacks on Deep Learning. Nilaksh Das, Haekyu Park, Zijie J. Wang, Fred Hohman, Robert Firstman, Emily Rogers, Duen Horng (Polo) Chau. *Extended Abstracts, CHI 2020*. Apr 25-30, Honolulu, Hawaii, USA.
PDF

Mixed Reality for Learning Programming. Joonyoung Kim, Sudeep Agarwal, Kristina Marotta, Siwei Li, Jonathan Leo, Duen Horng Chau. *Proceedings of the 18th ACM International Conference on Interaction Design and Children (IDC), 2019*. Boise, ID. Jun 12-15, 2019.
Won Best Work-in-Progress, Honorable Mention
PDF YouTube Website ACM

NeuralDivergence: Exploring and Understanding Neural Networks by Comparing Activation Distributions. Haekyu Park, Fred Hohman, Duen Horng (Polo) Chau. *IEEE Pacific Visualization Symposium (PacificVis) 2019*. Bangkok, Thailand. Apr 23-26, 2019.
PDF Demo

Augmenting Coding: AugmentedReality for Learning Programming. Nathan Dass, Joonyoung Kim, Sam Ford, Sudeep Agarwal, Duen Horng Chau. *The Sixth International Symposium of Chinese CHI (Chinese CHI 2018). Apr 21-22, 2018. Montreal, Canada*.
Won Best Poster Award
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3D Exploration of Graph Layers via Vertex Cloning. James Abello, Fred Hohman, Duen Horng (Polo) Chau. *Poster Abstract, IEEE VIS 2017*.
PDF YouTube

Atomic Operations for Specifying Graph Visualization Techniques. Charles D. Stolper, Will Price, Matt Sanford, Duen Horng (Polo) Chau, John Stasko. *Poster Abstract, IEEE VIS 2017*.
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ShapeShop: Towards Understanding Deep Learning Representations via Interactive Experimentation. Fred Hohman, Nathan Hodas, Duen Horng (Polo) Chau. *Extended Abstracts, CHI 2017* May 6-11, 2017. Denver, CO, USA.
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Carina: Interactive Million-Node Graph Visualization using Web Browser Technologies. Dezhi (Andy) Fang, Ma□hew Keezer, Jacob Williams, Kshitij Kulkarni, Robert Pienta, Duen Horng (Polo) Chau. *26th International World Wide Web Conference (WWW) 2017* Companion. April 3-7, 2017. Perth, Australia.
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Making Sense of Graph Query Results: Interactive Summarization and Exploration. Robert Pienta, Alex Endert, Shamkant Navathe, Duen Horng Chau. *Poster Abstract, IEEE VIS 2016*. Oct 23 - 28, 2016. Baltimore, Maryland, USA.
PDF Vimeo

NaturalMotion: Exploring Gesture Controls for Visualizing Time-Evolving Graphs. Samuel Clarke, Nathan Dass, Duen Horng Chau. *Poster Abstract, IEEE VIS 2016*. Oct 23 - 28, 2016. Baltimore, Maryland, USA.
PDF Vimeo

M3: Scaling Up Machine Learning via Memory Mapping. Dezhi Fang, Duen Horng (Polo) Chau. *SIGMOD/PODS'16*.
PDF arXiv

Generating Graph Snapshots from Streaming Edge Data. Sucheta Soundarajan, Acar Tamersoy, Elias Khalil, Tina Eliassi-Rad, Duen Horng Chau, Brian Gallagher and Kevin Roundy *25th International World Wide Web Conference 2016*. Apr 11-15, 2016. Montreal, Canada
PDF

STEPS: A Spatio-temporal Electric Power Systems Visualization. Robert Pienta, Leilei Xiong, Santiago Grijalva, Duen Horng Chau, Minsuk Kahng. *ACM Conference on Intelligent User Interfaces (IUI)*. March 7-10, 2016. Sonoma, GA, USA.
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Effort-based Detection of Comment Spammers. Acar Tamersoy, Hua Ouyang and Duen Horng Chau *36th IEEE Symposium on Security and Privacy 2015*. May 18-20, 2015. San Jose, CA, USA.
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Spotting Suspicious Reviews via (Quasi-)clique Extraction. Paras Jain, Shang-Tse Chen, Mozhgan Azimpourkivi, Duen Horng Chau and Bogdan Carbunar *36th IEEE Symposium on Security and Privacy 2015*. May 18-20, 2015. San Jose, CA, USA.
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TimeStitch: Interactive Multi-focus Cohort Discovery and Comparison. Peter J. Polack, Jr., Shang-Tse Chen, Minsuk Kahng, Moushumi Sharmin, Duen Horng (Polo) Chau. *Poster Abstract, IEEE VIS 2015*. Oct 25 - 30, 2015. Chicago, IL, USA.
PDF

AdaptiveNav: Adaptive Discovery of Interesting and Surprising Nodes in Large Graphs. Robert Pienta, Zhiyuan Lin, Minsuk Kahng, Jilles Vreeken, Partha P. Talukdar, James Abello, Ganesh Parameswaran, Duen Horng (Polo) Chau. *Poster Abstract, IEEE VIS 2015*. Oct 25 - 30, 2015. Chicago, IL, USA.
PDF

Interactive Querying over Large Network Data: Scalability, Visualization, and Interaction Design. Robert Pienta, Acar Tamersoy, Hanghang Tong, Alex Endert, Duen Horng (Polo) Chau. *ACM Conference on Intelligent User Interfaces (IUI)*. Atlanta, GA, USA. March 29 - April 1, 2015.
PDF

Identifying Successful Investors in the Startup Ecosystem. Srishti Gupta, Robert Pienta, Acar Tamersoy, Duen Horng Chau, Rahul C. Basole. *International Conference on World Wide Web (WWW) 2015*, May 18 -22, 2015. Florence, Italy

GLOs: Graph-Level Operations for Exploratory Network Visualization. Charles D. Stolper, Florian Foerster, Minsuk Kahng, Zhiyuan Lin, Aakash Goel, John Stasko, Duen Horng (Polo) Chau. *Extended Abstracts, CHI 2014*. Apr 26 - May 1, 2014. Toronto, Canada. PDF

Interactive Multi-resolution Exploration of Million Node Graphs. Zhiyuan (Jerry) Lin, Duen Horng (Polo) Chau. *Poster Abstract, IEEE VIS 2013* Oct 13 - 18, 2013. Atlanta, GA, USA. PDF

Fast Interactive Visualization for Multivariate Data Exploration. Changhyun Lee, Wei Zhuo, Jaegul Choo, Duen Horng (Polo) Chau. *Extended Abstracts, CHI 2013* Apr 27- May 2, 2013. Paris, France. PDF

TopicViz: Semantic Navigation of Document Collections. Jacob Eisenstein, Duen Horng (Polo) Chau, Aniket Kittur, Eric P. Xing. *Extended Abstracts, CHI 2012*. May 5-10, 2012. Austin, TX, USA. PDF

Parallel Crawling for Online Social Networks. Duen Horng (Polo) Chau, Shashank Pandit, Samuel Wang, and Christos Faloutsos. *International Conference on World Wide Web (WWW) 2007*. May 8-12, 2007. Banff, Alberta, Canada. Pages 201-210. PDF

Integrating Isometric Joysticks into Mobile Phones for Text Entry. Duen Horng (Polo) Chau, Jacob O. Wobbrock, Brad A. Myers, Brandon Rothrock. *Extended Abstracts, CHI 2006*. April 22-27, 2006. Montreal, Canada. Pages 640-645. PDF

Demos

WizMap: Scalable Interactive Visualization for Exploring Large Machine Learning Embeddings. Zijie J. Wang, Fred Hohman, Duen Horng Chau. Demo, ACL 2023. PDF

Diffusion Explainer: Visual Explanation for Text-to-image Stable Diffusion Seongmin Lee, Ben Hoover, Hendrik Strobelt, Zijie J. Wang, Anthony Peng, Austin Wright, Kevin Li, Haekyu Park, Alex Yang, Polo Chau. Demo, CVPR 2023. PDF

WebSHAP: Towards Explaining Any Machine Learning Models Anywhere. Zijie J. Wang, Duen Horng (Polo) Chau. Demo, WWW 2023. PDF

DetectorDetective: Investigating the Effects of Adversarial Examples on Object Detectors. Sivapriya Vellaichamy, Matthew Hull, Zijie Jay Wang, Nilaksh Das, ShengYun Peng, Haekyu Park, Duen Horng Polo Chau. Demo, CVPR 2022. PDF

VisCUIT: Visual Auditor for Bias in CNN Image Classifier. Seongmin Lee, Zijie J. Wang, Judy Hoffman, Duen Horng (Polo) Chau. Demo, CVPR 2022. PDF

Visual Exploration of Literature with Argo Scholar. Kevin Li, Haoyang Yang, Evan Montoya, Anish Upadhayay, Zhiyan Zhou, Jon Saad-Falcon and Duen Horng Chau. Demo, CIKM 2022. PDF ACM

Dodrio: Exploring Transformer Models with Interactive Visualization. Zijie J. Wang, Robert Turko, Duen Horng Chau. Demo, ACL 2021 PDF Demo YouTube

SkeletonVis: Interactive Visualization for Understanding Adversarial Attacks on Human Action Recognition Models. Haekyu Park, Zijie J. Wang, Nilaksh Das, Anindya S. Paul, Pruthvi Perumalla, Zhiyan Zhou, Duen Horng Chau. Demo, AAAI 2021. PDF Demo YouTube

MLsploit: A Framework for Interactive Experimentation with Adversarial Machine Learning Research. Nilaksh Das, Siwei Li, Chanil Jeon, Jinho Jung, Shang-Tse Chen, Carter Yagemann, Evan Downing, Haekyu Park, Evan Yang, Li Chen, Michael Kounavis, Ravi Sahita, David Durham, Scott Buck, Duen Horng Chau, Taesoo Kim, Wenke Lee. *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2019 Project Showcase*. Ankorage, Alaska. Aug 4-8, 2019. PDF Code YouTube

MLsploit: A Cloud-Based Framework for Adversarial Machine Learning Research. Nilaksh Das, Siwei Li, Chanil Jeon, Jinho Jung, Shang-Tse Chen, Carter Yagemann, Evan Downing, Haekyu Park, Evan Yang, Li Chen, Michael Kounavis, Ravi Sahita, David Durham, Scott Buck, Polo Chau, Taesoo Kim, Wenke Lee. *Black Hat Asia - Arsenal, 2019*. Singapore. Mar 26-29, 2019. Abstract

ADAGIO: Interactive Experimentation with Adversarial Attack and Defense for Audio. Nilaksh Das, Madhuri Shanbhogue, Shang-Tse Chen, Li Chen, Michael E. Kounavis, Duen Horng (Polo) Chau. *European Conference on Machine Learning & Principles & Practice of Knowledge Discovery in Databases (ECML-PKDD), 2018*. Dublin, Ireland. Sep 10-14, 2018. PDF

Compression to the Rescue: Defending from Adversarial Attacks Across Modalities. Nilaksh Das, Madhuri Shanbhogue, Shang-Tse Chen, Fred Hohman, Siwei Li, Li Chen, Michael E Kounavis, Duen Horng Chau. *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2018 Project Showcase*. London, United Kingdom. Aug 19-23, 2018. PDF

Interactive Classification for Deep Learning Interpretation. Ángel Alexander Cabrera, Fred Hohman, Jason Lin, Duen Horng (Polo) Chau. *Demo, Conference on Computer Vision and Pattern Recognition (CVPR)*. June 18, 2018. Salt Lake City, USA. PDF YouTube Code

mHealth Visual Discovery Dashboard. Dezhi Fang, Fred Hohman, Peter Polack, Hillol Sarker, Minsuk Kahng, Moushumi Sharmin, Mustafa al'Absi, Duen Horng (Polo) Chau. *Demo, ACM International Joint Conference on Pervasive and Ubiquitous Computing (UBICOMP)* Sept 11-15, 2017. Maui, USA. PDF YouTube Poster

Visual Graph Query Construction and Refinement. Robert Pienta, Fred Hohman, Acar Tamersoy, Alex Endert, Shamkant Navathe, Hanghang Tong, Duen Horng Chau. *SIGMOD 2017*. May 14-19, 2017. Chicago, IL, USA. PDF YouTube

Best Demo, Honorable Mention

Demonstrating Interactive Multi-resolution Large Graph Exploration. Zhiyuan (Jerry) Lin, Nan Cao, Hanghang Tong, Fei Wang, U Kang, and Duen Horng (Polo) Chau. *ICDM 2013*. Dec 7 - 10, 2013. Dallas, Texas, USA. PDF

Interactive Data Analysis Tool by Augmenting MATLAB with Semantic Objects. Changhyun Lee, Jaegul Choo, Duen Horng (Polo) Chau, and Haesun Park. *ICDM 2013*. Dec 7 - 10, 2013. Dallas, Texas, USA.

Interactively and Visually Exploring Tours of Marked Nodes in Large Graphs. Duen Horng (Polo) Chau, Leman Akoglu, Jilles Vreeken, Hanghang Tong, Christos Faloutsos. *ASONAM 2012*. Aug, 2012. Istanbul, Turkey

TourViz: Interactive Visualization of Connection Pathways in Large Graphs. Duen Horng (Polo) Chau, Leman Akoglu, Jilles Vreeken, Hanghang Tong, Christos Faloutsos. *KDD 2012*. Aug, 2012. Beijing, China PDF

Large Graph Mining System for Patterns, Anomalies & Visualization. Leman Akoglu, Duen Horng (Polo) Chau, U Kang, Danai Koutra, Christos Faloutsos. *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD) 2012*. May 29-Jun 1, 2012. Kuala Lumpur, Malaysia

OPAvion: Mining and visualization in large graphs. Leman Akoglu, Duen Horng (Polo) Chau, U Kang, Danai Koutra, Christos Faloutsos. *ACM SIGMOD Conference 2012*. May 20-24, 2012. Scottsdale, Arizona, USA PDF Poster

Apolo: Interactive Large Graph Sensemaking by Combining Machine Learning and Visualization. Duen Horng (Polo) Chau, Aniket Kittur, Jason I. Hong, Christos Faloutsos. *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2011*. Aug 21-21, 2011. San Diego, California, USA. PDF

SHIFTR: A Fast and Scalable System for Ad Hoc Sensemaking of Large Graphs. Duen Horng (Polo) Chau, Aniket Kittur, Christos Faloutsos, Hanghang Tong, Jason I. Hong. *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2009*. June 28-July 1, 2009. Paris, France. PDF

GRAPHITE: A Visual Query System for Large Graphs. Duen Horng (Polo) Chau, Christos Faloutsos, Hanghang Tong, Jason I. Hong, Brian Gallagher, Tina Eliassi-Rad. *International Conference on Data Mining (ICDM) 2008*. Dec 15-19, 2008. Pisa, Italy. PDF YouTube

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PH.D. STUDENTS

Advisor Alec Helbling, ML PhD
Summer 2023 - present.

Matthew Hull, ML PhD
Summer 2023 - present.

Outstanding Instructional Associate Teaching award

Shengyun (Anthony) Peng, CS PhD
Spring 2022 - present.

Seongmin Lee, CS PhD
Fall 2021 - present.

Ben Hoover, ML PhD
Fall 2021 - present.

Rahul Duggal, CS PhD
Fall 2019 - Summer 2022. Co-adv: Jimeng Sun.
Thesis: *Robust Efficient Edge AI: New Principles and Frameworks for Empowering AI on Edge Device*
Proposal: 10/22/21. Defense: 07/14/22

Amazon Post Internship Fellowship

Now: Applied Scientist II, AWS AI Computer Vision Group

Austin Wright, ML PhD
Fall 2019 - present.

ORISE Fellow, National Center for Injury Prevention and Control

GT-GSU Public Interest Technology (PIT) Fellow, 2020

Georgia Tech President's Fellowship

Zijie (Jay) Wang, ML PhD

Fall 2019 - present.
- Apple Scholar, 2023. Only 22 awardees in AI/ML PhD fellowship worldwide.
- JPMorgan AI PhD Fellowship, 2022

Haekyu Park. CS PhD.
Fall 2018 - Fall 2023.
Thesis: *Interactive Scalable Discovery of Concepts, Evolutions, and Vulnerabilities in Deep Learning*
Proposal: 11/15/22.
- Rising Star in EECS 2022
- JPMorgan AI PhD Fellowship, 2021
- Now: Machine Learning Engineer, Stripe

Scott Freitas. ML PhD.
Fall 2018 - Fall 2021.
Thesis: *Developing Robust Models, Algorithms, Databases, and Tools with Applications to Cybersecurity and Healthcare*
Proposal: 05/12/21. Defense: 12/07/21
- IBM PhD Fellowship, 2021
- NSF Graduate Research Fellowship, 2018-2021
- Raytheon Graduate Research Assistantship, 2019. $25k.
- Now: Senior Applied Scientist, Microsoft

Nilaksh Das. CSE PhD.
Fall 2017 - Spring 2022.
Thesis: *Understanding, Fortifying and Democratizing AI Security*
Proposal: 04/14/21. Defense: 04/13/22
- Best Dissertation Award, College of Computing, Georgia Tech
- Now: Applied Scientist, Amazon Web Services (AWS)

Fred Hohman. CSE PhD.
Summer 2016 - Fall 2020.
Thesis: *Interactive Scalable Interfaces for Machine Learning Interpretability*
Proposal: 12/02/19. Defense: 10/06/20
- SIGCHI Outstanding Dissertation Award, 2022
- Best Dissertation Award, College of Computing, Georgia Tech
- NASA Space Technology Research Fellowship 2018-2021. ~$80k/yr
- Georgia Tech President's Fellowship
- Now: Research Scientists, Apple

Shang-Tse Chen. CS PhD. Co-adv: Nina Balcan.
Fall 2014 - Fall 2019.
Thesis: *AI-infused Security: Robust Defense by Bridging Theory and Practice*
Proposal: 11/16/18. Defense: 08/19/19
- IBM PhD Fellowship, 2018-2020
- Symantec Research Labs (SRL) Graduate Fellowship 2016, runner-up
- Now: Assistant Professor, National Taiwan University (NTU)

Minsuk (Brian) Kahng. CS PhD.
Fall 2013 - Fall 2019.
Thesis: *Human-Centered AI through Scalable Visual Data Analytics*
Proposal: 10/15/18. Defense: 10/08/19
- Best Dissertation Award, College of Computing, Georgia Tech
- Google PhD Fellowship, 2018-2020
- NSF Graduate Research Fellowship, 2014-2017
- Now: Research Scientist, Google

Robert Pienta. CSE PhD.
Spring 2013 - Fall 2017.
Thesis: *Adaptive Visual Network Analytics: Algorithms, Interfaces, and Systems for Exploration and Querying*
Proposal: 4/6/16. Defense: 6/27/17
- Now: Data Science Manager, Intuit

Acar Tamersoy. CS PhD. Co-adv: Sham Navathe.
Spring, 2013 - Spring 2016.
Thesis: Graph-based Algorithms and Models for Security, Healthcare, and Finance
Proposal: 11/6/15. Defense: 3/11/16.

Symantec Research Labs (SRL) Graduate Fellowship, 2014-2015
Now: Senior Researcher Scientist, NortonLifeLock Research Group

Co-advisor
Chad Stolper. CS PhD. Adv: John Stasko.
Spring 2014 - Summer 2016.
Thesis: Graph-Level Operations: A High-Level Interface for Graph Visualization Specification
Proposal: 5/1/15. Defense: 7/1/16.
Now: Software Engineer, Google

Research Project Advisor
Abhijit Suprem. CS. Fall 2017.

Liexiao (Richard) Ding. ISyE. Adv: Nagi Gebraeel. Fall 2016.

Oliver Haimson. Ph.D. Informatics Department. UC Irvine. Co-adv: Bistra Dilkina, Matt Hinds-Aldrich. Summer 2015.

Wenwen Chang. Ph.D. City and Regional Planning. Co-adv: Bistra Dilkina, Matt Hinds-Aldrich. Summer 2015.

Can Hantas. Co-adv: Sham Navathe. Spring 2014

Dr. Jaegul Choo. CSE. Adv: Haesun Park. Spring 2013 - Fall 2014.
Now: Assistant Professor, Korea University

Kunal Malhotra. CS. Adv: Sham Navathe. Spring 2013 - Spring 2014.

Kaeser Puryear Sabrin. CS. Fall, 2013.

Wei (Tina) Zhou. IC. Adv: Jarek Rossignac. Spring 2013 - Fall 2013.

Bo Xie. CSE. Fall 2012 - Spring 2013.

POST DOCS

Dongkyu Chae. Fall 2019 - Summer 2020
Now: Assistant Professor, Hanyang University, South Korea

MASTERS STUDENTS

MS Thesis Advisor
Elias Khalil. CSE. Spring 2013 - Spring 2014.
Thesis: Optimizing the Structure of Diffusion Networks: Theory and Algorithms
Now: Assistant Professor, University of Toronto
Marshall D. Williamson Fellowship, for well-rounded second-year Masters' students, Spring 2014
Donald V. Jackson Fellowship, for well-rounded first year Masters' students, Spring 2013
Now: CSE/CoC PhD student

Research Proj Advisor
Aeree Cho, CS MS. Spring 2024 - present.

Alex Karpekov, CS MS. Spring 2024 - present.

Justin Blalock, CS MS. Fall 2023 - present.

Harsha Karanth, CS MS. Fall 2023 - present.

Mansi Phute, CS MS. Summer 2023 - present.
Marshall D. Williamson Fellowship, for well-rounded second year Masters' students, Spring 2024

Nemath Ahmed. CS MS. Spring 2023.

Chakri RVK. Analytics MS. Summer 2022 - Spring 2023.

Shengyun (Anthony) Peng. CSE MS. Summer 2021 - Fall 2021.

Sivapriya Vellaichamy. Analytics MS. Summer 2021 - Spring 2022.
Now: AI Research Tech - Senior Associate, JP Morgan Chase

Soo Hyung Park. MS CS. Summer 2021.

Isha Shah. MS CS. Summer 2021.

Jonathan Leo. MS CS. Spring 2021 - Spring 2022.

Sushanto Praharaj. MS CSE. Summer 2020, Spring 2021.
Marshall D. Williamson Fellowship, for well-rounded second year Masters' students, Spring 2021

Now: Software Engineer, Salesforce

Aiswarya Bhagavatula. MS CSE. Summer 2020, Spring 2021.
Now: Analyst, Goldman Sachs

Pruthvi Perumalla. MS CS. Summer 2020.
Now: Software Engineer, Microsoft

Anmol Chhabria. MS CSE. Spring 2019.
Donald V. Jackson Fellowship, for well-rounded first year Masters' students, Spring 2019
Now: Senior Data Scientist, Shopify

Kristina Marotta. OMS CS. Fall 2018.

Varun Bezzam. MS CS. Fall 2017 - Fall 2018
Now: Senior Software Engineer, Lyft

Madhuri Shanbhogue. MS CS. Spring 2017 - Spring 2018
Now: Software Engineer ML, Google

Prasenjeet Biswal. MS CS. Spring 2017 - Fall 2018
Now: Software Engineer II (Machine learning), Yahoo

Nilaksh Das. MS CSE. Spring 2017

Chirag Tailor. MS CS. Summer 2016 - Spring 2017.

Michael Phillips. MS Analytics. Fall 2016.

Peter Polack. MS CS. Fall 2015 - Fall 2016.
Now: PhD student, UCLA

Meera Kamath. MS CS. Spring 2016.
Now: Microsoft

Apurv Verma. MS CS. Spring 2016.

Michael Madaio. MS Digital Media. Summer 2015. Co-adv: Bistra Dilkina, Matt Hinds-Aldrich.
Now: HCI Ph.D. student, Carnegie Mellon

Xiang (Sean) Cheng. MS Computer Science & Physics. Emory University. Summer 2015. Co-adv: Bistra Dilkina, Matt Hinds-Aldrich.
Now: Nokia Technologies

Alexandre Yahi. MS CS Summer 2014 - Spring 2015
Now: PhD student, Biomedical Informatics, Columbia University

Antoine Chassang. MS CS. Summer 2014 - Spring 2015

Louis Raynaud. MS CS. Summer 2014 - Spring 2015
Now: Wavestone

Hugo Duthil. MS CS. Summer 2014 - Spring 2015
Now: Criteo

Mayank Gupta. Co-adv: Rahul Basole. MS CS. Fall 2014 - Spring 2015.
Now: Apple

Florian Foerster. MS HCI. Spring 2014 - Fall 2014.
Now: Facebook software engineer

Ganesh Parameswaran. MS CSE. Fall 2013.
Now: Yahoo! software engineer

Changhyun Lee. MS CSE. Adv: Haesun Park. Fall 2012 - Spring 2013.
Now: Google software engineer

Neha Reddy. MS Info Networking, CMU. 2009.
Now: Cvent software engineer

Karthik Thiyagarajan. MS Info Networking, CMU. 2009.
Now: QuantFind software engineer

Masters Project — Shan Li. MS HCI. Fall 2014 - Spring 2015.

Project: A Course/Major Recommendation System for Georgia Tech Students
Placed: Oracle

Srishti Gupta. MS CS. Spring 2014 - Spring 2015.
Project: A Study of Venture Capitalists through Graph Analysis
Now: Apple

Aakash Goel. MS CSE. Spring, Fall 2013.
Project: Improvements to Apolo (a Machine Learning Based Graph Visualization and Analysis System for Large Network Data)
Placed: Google software engineer

MS Special Problem

Vivek Nahbi. MS CS. Spring 2014 - Summer 2014.
Project: Systematic Integration of Large Data Sets for Improved Decision-Making.

Jon Greg. MS CSE. Fall 2012.
Project: Anomaly detection for graphs

Zhen (Henry) Wang. MS CSE. Fall 2012.
Project: Large graph decomposition

Ziaohui Luo. IC. Fall 2012.
Project: Graph visualization on mobile devices

INSTRUCTIONAL ASSOCIATE RESEARCHER

Matthew Hull, Instructional Associate, Georgia Tech. May 2021 - May 2023.

UNDERGRADUATE STUDENTS

Research Advisor

Chae Yeong (Grace) Kim. CS. Spring 2024 - present.

Aishwarya Chakravarthy. CS. Fall 2023 - present.

Sri Ranganathan Palaniappan. CS. Fall 2023 - present.

Mahesh Natamai. CS. Spring 2023.

Sagar Sadak. CS. Fall 2022 - present.

Shirling Xu. CS. Fall 2022.

David Munechika. CS BS/MS. Fall 2021 - present.
Stamps President's Scholar

Pratham Mehta. CS BS/MS. Fall 2021 - present.
Outstanding Legacy Leadership Award, Spring 2024
Outstanding Second Year Leadership Award, Spring 2023

Evan Montoya. CS. Fall 2021 - present.
Stamps President's Scholar

Carter Coté. CS. Fall 2021.

Megan Dass. CS. Fall 2020 - Spring 2023.
2022 Adobe Women in Technology (WIT) Scholar
Outstanding Freshman Award, College of Computing
Featured in Georgia Tech Compiler news story Cropping Made Easy, for the MagicCrop system that automatically crop headshot photos using AI.

Alex Yang. CS BS/MS. Fall 2020 - Spring 2023.
Donald V. Jackson Fellowship Award (outstanding 1st year MS)

Kevin Li. CS. Fall 2020 - Spring 2023.
Undergraduate Teaching Assistant of the Year, Georgia Tech.
Outstanding Undergraduate Teaching Assistant, College of Computing, Georgia Tech.
Provost's Academic Excellence Award, Georgia Tech.
Now: ML PhD student, Carnegie Mellon

Sasha Richardson. CS undergraduate student, Fayetteville State University. Summer 2020.

Robert Firstman. CS. Fall 2019 - Spring 2020.
Now: Software Engineer, Meta

Robert Turko. CS. Fall 2019 - Spring 2021.
Now: Software Engineer, Google
Outstanding Senior Award, College of Computing.

Jon Saad-Falcon. CS. Fall 2019 - Fall 2020.
Now: CS PhD student, Stanford
Donald V. Jackson Fellowship, for well-rounded first year Masters' students, Spring 2021

Zhiyan (Frank) Zhou. CS. Fall 2019 - Spring 2022.

Anish Upadhayay. CS. Fall 2019 - Spring 2022.

Omar Shaikh. CS. Fall 2018 - Spring 2022.
Now: CS Ph.D. student, Stanford
Awarded Sigma Xi Best Undergraduate Research Award (Spring 2021)
Outstanding Freshman, College of Computing, Georgia Tech. 2020.
Awarded President's Undergraduate Research Travel Award (PURA) ($1500, Spring'20)

Will Epperson. CS. Spring 2019 - Spring 2020.
Now: CS Ph.D. student, Carnegie Mellon University
Stamps President's Scholar, Aug 2016-May 2020. Full-ride scholarship, awarded to 40 students.
Awarded President's Undergraduate Research Travel Award (PURA) ($1500, Fall'19)

Jonathan Leo. CS. Spring 2019 - Fall 2020.
Awarded President's Undergraduate Research Travel Award (PURA) ($1500, Fall'19)

Ángel (Alex) Cabrera. CS. Spring 2018 - Spring 2019.
Now: HCI Ph.D. student, Carnegie Mellon University
NSF Graduate Research Fellowship, 2019-
Co-repicient of Love Family Scholarship ($10,000 total), highest award Georgia Tech gives to a graduating senior. 2019.
Stamps President's Scholar, Aug 2015-May 2019. Full-ride scholarship, awarded to 10 students.

Siwei (Bob) Li. CS. Fall 2017 - Spring 2020.
Now: Software Engineer, Google
Outstanding Undergraduate Research, College of Computing, Georgia Tech. 2020.
Awarded President's Undergraduate Research Travel Award (PURA) ($1500, Fall'19)

Sudeep Agarwal. CS. Fall 2017 - Fall 2018.
Now: Machine Learning Engineer, Apple

Dezhi (Andy) Fang. CS. Fall 2015 - Spring 2018.
Now: Software Engineering, Citadel
Outstanding Undergraduate Research, College of Computing, Georgia Tech. 2018.
Outstanding Undergraduate Researcher, Georgia Tech. 2018.
Research supported by Faculty Materials, Supplies and Travel Grants for Undergraduate Research ($1000, Summer'17)
Awarded President's Undergraduate Research Travel Award (PURA) ($1500, Fall'16)
SIGMOD'16 Undergraduate Research Poster Competition Finalist

Yili Hui. CS. Fall 2017 - Spring 2018.
Now: Software Engineer, Microsoft

Joon Kim. CS. Fall 2017 - Spring 2019.
Now: Mailchimp

Joseph Spall. CS. Fall'17.
Now: MS ECE student, Georgia Tech

Michael Aki. CS. Fall'17.
Now: Software Engineer, Amazon

D'arcy (Quintin) Roper. CS. Fall'17.
Now: Technology Solutions Senior Consultant, Credera

Kshitij Kulkarni. EE. Fall 2016 - Spring 2017.
Now: EECS PhD student, UC Berkeley

Jake Williams. CS. Spring 2016 - Spring 2017.
Now: Machine Learning Engineer, Square

Fu Shen. CS. Summer 2016. Co-adv: Fang (Cherry) Liu.
Now: MS CSE student, Georgia Tech

Matthew Keezer. CS. Fall 2015 - Spring 2017.
Now: Staff Software Engineer, IBM

Jay Kamat. CS. Fall 2015 - Spring 2016.
Now: Performance and Capacity Engineer, Meta

Neil Goel. CS. Fall 2015.
Now: Software Engineer, Google

Francisco Zampieri. CS. Fall 2015.
Now: Application Developer Lead, Fiserv

Mika Munch. CS. Fall 2015.
Now: Service Design Lead, Banking, NCR

Goutam Venkatramanan. CS. Fall 2015.
Now: Software Engineer, Meta

Sam Ford. CS. Summer 2015 - Fall 2017.
Now: Machine Learning Engineer, Cash App

Ryan Birmingham. CS. Summer - Fall 2015.
Now: Systems Software Engineer, Emory University School of Medicine

Junxian (Rupert) Wu. CS. Summer 2015.
Now: Software Engineer, Google

Arman Rye. ISyE. Fall 2014 - Spring 2015.
Now: Cloud Customer Engineer, Google

Gustavo Oliver. ISyE. Fall 2014 - Spring 2015.
Now: Senior Data Engineer, Orchard

Nathan Dass. CS. Fall 2014 - Fall 2017.
Now: Senior Software Engineer, Google AI
2nd Place InVenture Prize 2017. $10,000 award
Research supported by Faculty Materials, Supplies and Travel Grants for Undergraduate Research ($1000, Summer'17)
Wearable Computing Center Grant (with Samuel Clarke) (~$1000, Fall 2014)

Paras Jain. CS. Fall 2014 - Spring 2017.
Now: EECS PhD student, UC Berkeley
Awarded President's Undergraduate Research Travel Award (PURA) twice (Spring'16: $1000; Spring'17: $1500)

Yiqi (Victor) Chen. CS. Fall 2013 - Spring 2016.
Now: Software Engineer, Meta
Awarded President's Undergraduate Research Travel Award (PURA) ($1000, Spring'15)

Zhiyuan (Jerry) Lin. CS. Spring 2013 - Spring 2016.
Now: Research Scientist, Meta (after CS PhD, Stanford)
Computing Research Association's (CRA) Outstanding Undergraduate Researcher Award, finalist
Outstanding Undergraduate Research in Computing Award (2015)
Chosen as Georgia Tech representative for 10th Annual ACC Meeting of the Minds Conference at NC State University
Awarded President's Undergraduate Research Travel Award (PURA) ($1000, Fall'14)
1st place, 9th Undergraduate Research Kaleidoscope (URK). Oct 2014.
Awarded Sigma Xi Best Undergraduate Research Award ($200, plaque, certificate, Spring 2014)
2nd Place, 9th Annual Undergraduate Research Symposium at Georgia Tech's College of Computing, Spring 2014
Awarded President's Undergraduate Research Salary Award (PURA) ($1500, Fall'13)
Funded by Faculty Materials, Supplies and Travel Grants for Undergraduate Research ($1000, Summer'13)

Awarded to attend the prestigious SC13 (SuperComputing) Experiencing HPC for Undergraduates program. 25 total awardees worldwide.

Samuel Clarke. CS. Co-adv: Hongyuan Zha. Spring 2013 - Fall 2016.
Now: CS Ph.D. student, Stanford
Astronaut Scholarship (2015) -- among the most prestigious scholarships awarding the best and brightest undergraduate students pursuing education in STEM across the nation.
LatentGesture research featured in popular press
Wearable Computing Center Grant (with Nathan Dass) (~$1000, Fall 2014)

Premkumar (Prem) Saravanan. CS. Co-adv: Hongyuan Zha. Summer 2013 - Spring 2014.
Awarded President's Undergraduate Research Salary Award (PURA) ($1500, Spring'14)
LatentGesture research featured in popular press

Samarth Agarwal. CS. Spring 2013.
Now: Software Engineer, Google

Sahil Jolly. CS, CMU. 2010.

Sam Wang. CS, CMU. 2006 - 07.
Project: eBay fraud detection
→ PhD student at MIT

HIGH SCHOOL STUDENTS

Research Advisor — Ergin John (EJ) Ozyazgan, Walton high school. Spring 2015 - Summer 2015.

VISITING SCHOLARS

Hugo Armando Gualdron Colmenares, visiting from Universidade de São Paulo. Oct 2014 - Mar 2015.

KEYNOTES & INVITED TALKS

Human-Centered AI: Safe, Interpretable, Trustworthy Analytics

Mar 4, 2024 — Apple. Host: Dominik Moritz.
Oct 3, 2023 — [Keynote] GSU Scientific Computing Day.
Mar 3, 2023 — [As ACM Distinguished Speaker] California State University, Chico. Host: David Zeichick.
Sept 19, 2022 — Carnegie Mellon University CyLab Seminar. Host: Prof. Bryan Routledge.
Sept 8, 2022 — Cisco Responsible AI Summit. Host: Dr. Ali Payani.

UniTable: Towards a Unified Table Foundation Model

Mar 8, 2024 — ADP. Host: Xiaojing Wang. Presenters: ShengYun (Anthony) Peng, Polo Chau

Towards Safe and Interpretable AI

Oct 24, 2021 — [Keynote] Visualization in Data Science (VDS) at IEEE VIS 2021

Interactive Scalable Visualizations for Data Discoveries and Interpretable AI

June 24, 2021 — [Keynote] SIGMOD 2021 Curated Session of *Interactive Data Exploration*. [YouTube]

Towards Secure and Interpretable AI: Scalable Methods, Interactive Visualizations, and Practical Tools

Aug 23, 2021 — [As ACM Distinguished Speaker] San Francisco Bay ACM Chapter. Host: Greg Makowski.
Jul 8, 2021 — Square. Host: Omar Shaikh.
May 25, 2021 — American Statistical Association (ASA), Statistical Learning and Data Science
May 14, 2021 — Megagon Labs. Host: Estevam Hruschka.
Jan 21, 2021 — PNNL-GT workshop

Jun 4, 2020 SDSS Symposium on Data Science & Statistics

Dec 6, 2019 New York University. Host: Enrico Bertini

Nov 15, 2019 Chick-fil-A. Hosts: Jae Cha, Jon Hadacek, Melinda Borrero, Cameron Bradley

Nov 6, 2019 IEEE Data Mining Series, Georgia State University

Aug 29, 2019 GVU Center Brown Bag Seminar, Georgia Tech.

Aug 13, 2019 Microsoft Research Talks Series. Hosts: Jay Stoke, Josh Neil. [YouTube][Slides]

Jun 27, 2019 Intel Tech Talk

Secure AI: The Next Frontiers

Oct 9, 2019 Intel Labs Open House

Adversarial Machine Learning: Perspectives & Recent Developments

Jul 29, 2019 Intel

Human-centered AI: Scalable Interactive Tools for Interpretation & Attribution

Jun 11, 2019 Machine Learning in Science and Engineering (MLSE) Symposium

Apr 23, 2019 Strategic Partnership Program meeting

Explaining Machine Learning Models Using Interactive Visualization

Mar 14, 2019 NASA Jet Propulsion Lab (JPL). Host: Scott Davidoff

ActiVis: Visual Exploration of Industry-Scale Deep Neural Network Models

Aug 12, 2018 ACM SIGGRAPH. Delivered by Minsuk Kahng.

Jun 10, 2018 SIGMOD Workshop on Human-in-the-Loop Data Analytics (HILDA). Delivered by Minsuk Kahng.

Data Mining meeting HCI: Human-Machine Sensemaking of Large Graphs

Apr 14, 2017 Rutgers University. Host: James Abello

Apr 7, 2017 Southern Data Science Conference, Atlanta.

Machine Learning meets Visualization: Human-machine Sensemaking of Large Network Data

Feb 5, 2016 Centers for Disease Control and Prevention (CDC), Atlanta. Host: Robin Wagner.

Data Mining Meets HCI: Interactive Visual Tools for Large Graphs

Feb 16, 2017 Machine Learning Data Analysis Webminar. South Big Data Hub.

May 17, 2016 MIT Lincoln Lab Graph Exploitation Symposium 2016

Jan 29, 2016 Carnegie Mellon University, Human-computer Interaction Institute (HCII) Seminar Series. Host: Brad Myers, Queenie Kravitz

10 Lessons Learned from Working with Tech Companies

June 21, 2017 Data Science for Social Good Atlanta 2017.

June 8, 2016 Data Science for Social Good Atlanta 2016.

Data and Visual Analytics 101

Summer, 2015 Atlanta Data Science for Social Good 2015. Faculty advisor student team. Co-advisors: Bistra Dilkina, Matt Hinds-Aldrich (Atlanta Fire Rescue Department)

Catching Bad Guys with Graph Mining and Visualization

Dec 17, 2015 Yahoo Labs, New York

Oct 10, 2015 Emory University Institute for Quantitative Theory and Methods, Data Visualization seminar series

Mar 9-10, 2015 Machine Learning and Data Analytics Symposium (MLDAS). Doha, Qatar. Host: Dragos Margineantu

Human-in-the-loop Graph Sensemaking: Bridging HCI and Data Mining

Dec 12, 2014 NIPS 2014 Workshop on Personalization: Methods and Applications

HCI meets Data Mining: Interactive Graph Visualization, Exploration, and Sensemaking

Jun 12, 2016 Computer Society International Conference on Computers, Software & Applications (COMPSAC) 2016

Interactive Graph Visualization, Exploration, and Sensemaking

Dec 10, 2014 FLAMEL workshop

Scalable, Interactive Tools for Large Graph Analytics

Oct 27, 2014 [Keynote] Scalable Machine Learning: Theory and Applications workshop at IEEE International Conference on Big Data (IEEE BigData 2014)

Oct 2, 2014 [Keynote] Undergraduate Research Kaleidoscope. Jointly hosted by Georgia Tech Library and the Undergraduate Research Opportunities Program.

Data Mining Meets HCI: Scalable, Interactive and Comprehensible Tools for Data Analytics

Nov 18, 2015 Career Builder Distinguished Speaker Series. Host: Khalifeh Al Jadda

Oct 17, 2015 Northwestern University, SONIC Speaker Series. Host: Noshir Contractor

Feb 13, 2015 Twitter. Host: Shuang Yang.

Jun 24, 2014 PARC (Palo Alto Research Center Incorporated). Hosts: Oliver Brdiczka, David Gunning.

Jun 6, 2014 Search Technology Forum, eBay.

Apr 26, 2014 2014 SIAM Data Mining (SDM) Workshop on Exploratory Data Analysis.

Mar 13, 2014 Data Science ATL. Host: Dr. Raj Bandyopadhyay. SOLD-OUT! 200 attendees. 5-star reviews.

Jan 16, 2014 Big Data Chalk & Talk/Brown Bag. Georgia Tech.

Data Mining Meets HCI: Scalable, Interactive Tools for Large Graphs

Nov 5, 2013 Rutgers University. Host: Prof. Tina Eliassi-Rad.

Nov 4, 2013 Bell Labs. Host: Chun-Nam (John) Yu.

Data Mining Meets HCI: Making Sense of Large Graphs

Jun 28, 2013 Goodreads. Host: Jeff Wong.

Mar 15, 2013 Stanford HCI seminar. Host: Prof. Jeff Heer.

Feb 11, 2013 LogicBlox. Host: Nikolaos (Nick) Vasiloglou II.

Nov 28, 2012 UC Berkeley iSchool Dean's Lecture. Host: Prof. Marti Hearst

Oct 25, 2012 Linkedin. Host: Dr. Daniel Tunkelang, Dr. Monica Rogati

Sept 26, 2012 Hong Kong University, School of Business. Host: Prof. Michael Chau

Oct 11, 2012 IBM (T.J. Watson Research Center). Host: Dr. Hanghang Tong.

June 11, 2012 Huawei Noah Ark Research Lab, Hong Kong. Host: Prof. Qiang Yang.

May 28, 2012 Hong Kong University of Science and Technology. Host: Lionel Li

Apr 16, 2012 University of Pittsburgh, School of Information. Pittsburgh, PA, USA. Host: Prof. Peter Brusilovsky.

Apr 6, 2012 Georgia Tech, School of Computational Science & Engineering. Atlanta, Georgia, USA.

Apr 2, 2012 Virginia Tech, Computer Science Department. Blacksburg, Virginia, USA.

Mar 26, 2012 University of Rochester, Computer Science Department. Rochester, New York, USA.

Mar 20, 2012 Stony Brook University, Computer Science Department. Stony Brook, New York, USA.

Mar 13, 2012 Brown University, Computer Science Department. Providence, Rhode Island, USA.

Mar 7, 2012 University of Michigan, School of Information. Ann Arbor, Michigan, USA.

Feb 27, 2012 Pennsylvania State University, College of Information Sciences and Technology. State College, Pennsylvania, USA.

Feb 24, 2012 Carnegie Mellon University, Tepper School of Business. Pittsburgh, Pennsylvania, USA.

Exploiting Network Effects for Fraud and Malware Detection

Aug 2, 2013 The Third EITA Young Investigator Conference (EITA-YIC 2013), MIT. Invited

Large Graph Analytics: Anomaly Detection & Visualization

Mar 24, 2013 SIAM SEAS mini symposium on Anomaly Detection Methods and Applications. Invited by Dr. Blair Sullivan, Dr. Robert Bridges.

June 4, 2012 Singapore Management University. Host: Kyriakos Mouratidis

Mining Billion-Node Graphs: Ideas & Tools

May 28, 2012 Carnegie Mellon University, Tepper School of Business. Pittsburgh, Pennsylvania, USA. Invited.

Mining Massive Graphs: Visualization and Anomaly Detection

May 13, 2011 Google. Mountain View, CA, USA

May 10, 2011 Simon Fraser University. Vancouver, Canada. Host: Prof. Jian Pei. Invited.

Detecting Fraudulent Personalities in Networks of Online Auctioneers

Feb 16, 2007 eBay. Palo Alto, CA, USA. Invited.

PROFESSIONAL RECOGNITION

Since Jun, 2020 **ACM Distinguished Speaker**

Invited Panelist

Oct 26, 2023 IEEE VIS'23 panel: How should VIS4ML Redefine Itself in the Rapid Evolution of AI?

Sept 8, 2022 Cisco Responsible AI Summit

Jul 25, 2022 **Vis for AI: How can Vis help build better AI models?** panel at **Opportunities between AI and Visualization** workshop. Host: Prof. Enrico Bertini, Northeastern University.

Nov 11, 2021 **Explainable vs. Ethical AI: Just Semantics?** Panel, 2021 CATT Global Analytics Summit on Explainable AI (XAI), University of Texas

May 5, 2021 TAG Data Science & Analytics Explainable AI

Nov 10, 2020 IDEaS panel on **Getting Started in Data Science and Machine Learning** (panelist), Georgia Tech

May 27, 2020 Education panel on **Visualization for Data Science** (panelist), Eurographis & EuroVis 2020

Apr 7, 2020 Keep Teaching: Advice from Thank a(n Online) Teacher Recipients

Dec 12, 2019 **Ask A Prof!** inaugural blog post of On *Teaching and Learning @ Georgia Tech*

Jul 9, 2019 **Undergraduate Research Faculty Panel** (panelist), Georgia Tech

Jun 10, 2018 SIGMOD 2018 Workshop on Human-In-the-Loop Data Analytics (HILDA).

Mar 4, 2016 FLAMEL (NSF IGERT) Workshop.

Feb 5, 2016 *Seeing for Action - Using Maps and Graphs to Protect the Public's Health*. Centers for Disease and Prevention (CDC). Host: Robin Wagner.

Sept 22, 2015 Technology Association of Georgia (TAG) Big Data Panel on *Topic: What are we teaching in Big Data in our universities?*

Oct 16, 2013 IEEE Vis'2013 Workshop on *Using Visual Analytics to Foster Lateral Thinking About Business Problems*. Host: Chandan Gokhale (Infosys)

Apr 30, 2013 PACE Town Hall panel, on HPC, visualization

Dec 11, 2012 SAMSI-FODAVA Workshop on *Interactive Visualization and Analysis of Massive Data*

Nov 13, 2012 *Big Data Meets Social Media* at Georgia Tech's *Institute for People and Technology* (iPaT)'s annual *People & Technology Forum*

Invited Panel Chair

Oct 31, 2023 Science in the Age of Generative AI, ORNL Core Universities AI Workshop 2023

Mar 21, 2015 Georgia Tech Business Analytics and Big Data Forum: Visual Analytics Session, with Rahul Basole

Apr 15, 2013 Center for Data Analytics workshop, Georgia Tech

Invited Participant

Jun 14-15, 2017 Pacific Northwest National Laboratory (PNNL) Faculty Summit

	Theme: Machine Learning and Human Computer Interaction for Science and Security
Feb 15, 2017	Forum on Synthetic Identity Fraud, National Academies of Sciences
Jul 13-14, 2016	Microsoft Faculty Summit
Aug 1-2, 2016	Google Faculty Institute
Jun 17-18, 2014	Pacific Northwest National Laboratory (PNNL) Analysis in Motion (AIM) Workshop

GRANTS & FUNDING

Object Sensing and Cognition for Adversarial Robustness
DARPA Guaranteeing AI Robustness Against Deception (GARD). Agreement number HR00112030001
Prime PI: Jason Martin (Intel)
Georgia Tech PI: Duen Horng (Polo) Chau
Georgia Tech amount: $1.3 million
Period: 1/28/2020 – 2/29/2024
News Release

Research Initiation: Developing Technical Identity of Construction Engineering Students with Mixed Reality
NSF 2306226
PI: Omobolanle Ogunseiju
Co-PI: Duen Horng (Polo) Chau
Amount: $199,997
Period: 8/1/2023 – 7/31/2025

Collaborative Research: IRES Track I: Artificial Intelligence and Human Designer - Research Experience in Singapore (AIHD Singapore)
NSF 2246298
PI: Baabak Ashuri
Co-PI: Duen Horng (Polo) Chau
Amount: $150,000
Period: 9/1/2023 – 8/26/2026

Updating the GDOT's Risk-based Programmed Contingencies Through Development of a Data-Driven Decision Tree Model
Georgia Department of Transportation (GDOT)
PI: Baabak Ashuri
Co-PI: Duen Horng (Polo) Chau
Amount: $300,000
Period: 1/31/2024 – 5/1/2026

SitS NSF-UKRI: Rapid Deployment of Multi-Functional Modular Sensing Systems in the Soil
NSF 1935548
PI: Chloé Arson
Co-PIs: David Frost, Daniel Goldman, Duen Horng (Polo) Chau, Frank Hammond
Amount: $1.7 million (with Imperial College London via UK Research and Innovation); Georgia Tech amount: $800,000
Period: 9/1/2019 – 8/31/2023
News Release

SPARC-X: Quantum simulations at extreme scale - reactive dynamics from first principles
DE-SC0019410
PI: Phanish Suryanarayana
Co-PI: Andrew J. Medford, Edmond Chow, John E. Pask (Lawrence Livermore National Laboratory)
Senior Personnel: Duen Horng (Polo) Chau
Amount: $2.8 million
Period: 09/15/2018 - 09/14/2023
News release

ADP-GT Research
ADP
PI: Polo Chau
Co-PIs: Chao Zhang, Srijan Kumar
Amount: $250,000
Period: 10/5/2022 – 10/4/2023

Interactive Scalable Interpretable Monitoring of AI Training
Cisco Systems
PI: Polo Chau
Amount: $150,000

Period: 10/3/2022 – 12/2/2023

Interactive Scalable Auditing of AI Biases with Interpretable Mitigation
Cisco Systems
PI: Judy Hoffman
Co-PI: Duen Horng (Polo) Chau
Amount: $307,514
Period: 10/1/2020 – 8/31/2022

Analyzing and using large pretrained language models for societal good
Microsoft
PI: Munmun De Choudhury
Co-PI: Alan Ritter, Diyi Yang, Polo Chau
Amount: $300k Microsoft Azure credit
Period: 2/1/2021 – 6/1/2021

SaTC: CORE: Medium: Understanding and Fortifying Machine Learning Based Security Analytics
NSF CNS 1704701
PI: Polo Chau
Co-PIs: Taesoo Kim, Wenke Lee, Le Song
Amount: $1.2 milion
Period: 8/1/2017 – 7/31/2021

Understanding Deep Neural Networks Through Attribution and Interactive Experimentation
NASA
PI: Polo Chau
Amount: $235,000
Period: 8/1/2018 - 12/31/2020

III: Medium: Collaborative Research: Human-computer Graph Exploration and Tele-discovery
NSF IIS 1563816 (& 1563971)
PIs: Polo Chau, James Abello
Amount: $1.2 million
Period: 8/1/2016 – 7/31/2020

Intel Science & Technology Center for Adversary-Resilient Security Analytics (ISTC-ARSA)
Intel
PI: Wenke Lee
Co-PIs: Polo Chau, Taesoo Kim, Le Song
Gift: $1.5 million
7/27/2016 – 6/30/2019

Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K)
National Institute of Health (NIH: 1-U54EB020404-01)
Amount: $10.8 million (Prime: Univ. of Memphis); Georgia Tech amount: $1,250,035
PI: Jim Rehg
Co-PIs: Gregory Abowd, Polo Chau
Period: 9/29/2014 – 09/30/2018

TWC: Small: Collaborative: Cracking Down Online Deception Ecosystems
NSF TWC 1526254
PIs: Bogdan Carbunar, Duen Horng (Polo) Chau
Amount: $499,413
Period: 9/1/2015 – 8/31/2018

EAGER: Scaling up Machine Learning with Virtual Memory
NSF IIS 1551614
PIs: Polo Chau, Rich Vuduc
Amount: $184,904
Period: 10/1/2015 – 9/30/2017

Scalable Architecture for Anomaly Visualization in Power Generating Assets
Strategic Energy Institute (SEI), Georgia Tech
PI: Polo Chau
Amount: $52,344
Period: 1/1/2016 - 12/31/2017

Data Science Platform for Strategic Industry Partnerships, Innovations, & Talent Development
Institute for Data Engineering and Science (IDEaS), Georgia Tech
PI: Polo Chau
Co-PIs: Le Song, Hongyuan Zha, Sridhar Narasimhan, Jeffrey Hu, John Stasko, Cherry Liu

Amount: $75,000
Period: 1/1/2016 - 6/30/2016

CGV: Small: Making Sense out of Large Graphs - Bridging HCI with Data Mining
NSF IIS-1217559
PI: Christos Faloutsos
Co-PI Duen Horng Chau, Aniket Kittur
Amount: $528,578.00
Period: 8/25/2012 - 8/31/2015

Identifying Risks to Psychological Distress in University Student Populations from Online Interaction Data
James Edenfield Faculty Fellowship, with Munmun De Choudhury (IC). One graduate student support for one academic year, co-advised by two College of Computing faculty.
Amount: ~$25k
Period: Fall 2015 - Spring 2016

Illuminating Paths to Success: Mining Common Sequences of Courses
Georgia Tech Professional Education
PI: Polo Chau
Amount: $18,625
Period: 5/11/2015 - 8/1/2015

Data-Driven Decision-Making via Visual Analytics on the Microsoft Surface Hub
Microsoft
PI: John Stasko
Co-PIs: Rahul Basole, Alex Endert, Polo Chau
Amount: $25,000 and received an 84-inch Surface Hub.

Reimagining Humanities Visualization: A Research-Through-Design Workshop for Civic and Cultural Data
GVU research and engagement grant
PI: Lauren Klein
Co-PIs: Rahul Basole, Polo Chau, Carl DiSalvo, Alex Endert, Jim Foley, Nassim JafariNaimi, Yanni Loukissas, John Stasko, Jimeng Sun

Discovery, Analysis, & Visualization of Pediatric Asthma Careflow
Children's Healthcare of Atlanta
PI: Rahul Basole
Co-PIs: Mark Braunstein, Nicoleta Serban, Duen Horng Chau Amount: $202,867
Period: 9/1/2014 – 8/31/2015

Proactive Detection of Insider Threats with Graph Analysis at Multiple Scales
PIs: T. Senator (SAIC) and D.A. Bader (GTRI)
Defense Advanced Research Projects Agency
Anomaly Detection at Multiple Scales (ADAMS) Program
Amount: $2,927,976 (GT portion)
Period: 5/1/2011 - 4/30/2013

Discovery, Analysis, and Visualization of Pediatric Careflow Processes
Raytheon Faculty Fellowship, with Rahul Basole (IC). One graduate student support for one academic year, co-advised by two College of Computing faculty. Amount: ~$25k
Period: Fall 2014 - Spring 2015

Gift Avast Software. $100,000. Aug, 2021.

Fiddler Labs. $80,000. Aug, 2021.

Bosch. $37,000. Jan, 2021.

NVIDIA. DGX A100 640GB (~$200,000) + $79,000. Nov, 2020.

NVIDIA. Donation of a Titan V GPU. 2018.

Google Faculty Research Award. 2015. $52,000.

200 server donation from Yahoo Labs, as part of Yahoo Servers to Academic Researchers program (Y-STAR). Thanks Seth Tropper!

Intel. Spring 2015. $40,000. Support for big data curriculum.

LogicBlox. Fall 2013 - Spring 2014: $12,500.

Symantec. Summer 2013: $10,000. April 2014: $26,000. Spring 2015: $40,000.

eBay. Summer 2014: $15,000.

Yahoo Faculty Research Engagement (FREP) award. 2014 - 2015: $10,000.

	Yahoo sponsoring student seminars and distinguished lectures. 2014 - 2015: $13,500.
	Georgia Tech Wearable Computing Center Mentorship Grant. $1000, Fall 2014. Advising undergraduate students Samuel Clarke and Nathan Dass
MS&T	Faculty Materials, Supplies and Travel Grants for Undergraduate Research, advising Mr. Dezhi (Andy) Fang and Nathan Dass. Awarded: $1000, summer 2017
	Faculty Materials, Supplies and Travel Grants for Undergraduate Research, advising Mr. Yiqi (Victor) Chen. Awarded: $800, summer 2014
	Faculty Materials, Supplies and Travel Grants for Undergraduate Research, advising Mr. Zhiyuan (Jerry) Lin. Awarded: $1000, summer 2013
Fellowship	Research proposals led to two full years of research funding from Symantec. Awarded:$140,000.
Co-author	$35 million DARPA proposal on *Anomaly Detection at Multiple Scales* (ADAMS). CMU funded ~$500,000. Co-authored the winning proposal, represented CMU and led research efforts.
Education Grant	**Microsoft Azure Grant**
2016 - 2017	$20,000 for CSE 6242 / CX 4242 Data and Visual Analytics
	Amazon Web Services (AWS) Machine Learning Grant
Fall 18	$5000 credits for distributed machine learning research
Spring 15	$2500 credits for distributed machine learning research
	Amazon Web Services (AWS) Teaching Grant
Spring 2015	$12000 credits for CSE 6242 / CX 4242 Data and Visual Analytics
Fall 2014	$14000 credits for CSE 6242 / CX 4242 Data and Visual Analytics
Spring 2014	$10000 credits for CSE 6242 / CX 4242 Data and Visual Analytics
Spring 2013	$4000 credits to CSE 6242 A / CS 4803 DVA Data and Visual Analytics
Unfunded	Helped in creating an NEC proposal for *University Awards from NEC Labs Data Management*. $75,000

PROFESSIONAL ACTIVITIES

Program Co-chair	ACM Intelligent User Interfaces Conference (IUI) 2019
	USENIX Security and AI Networking Conference (ScAINet) 2019
General Co-Chair	ACM Intelligent User Interfaces Conference (IUI) 2015
Workshop Co-Chair	VIS workshop on Visualization for AI Explainability (VISXAI) 2018, 2019, 2020
	KDD workshop on **Interactive Data Exploration and Analytics (IDEA)**: 2013, 2014, 2015, 2016, 2017, 2018
	ICML workshop on Visualization for Deep Learning: 2016, 2017
Co-Organizer	Dagstuhl Seminar on **Interactive Visualization for Fostering Trust in ML**. Organizers: Daniela Oelke, Alex Endert, Daniel A. Keim, Polo Chau. Aug 28 – Sept 2, 2022.
Steering Committee	IEEE VIS workshop on Visualization for AI Explainability (VISxAI). 2021, 2022.
	ACM Intelligent User Interfaces (IUI) Conference. Since 2016.
	ICLR 2021 workshop on Beyond static papers: Rethinking how we share scientific understanding in ML
	USENIX Security and AI Networking Conference (ScAINet) 2019
Associate Editor	IEEE Transactions on Visualization and Computer Graphics (TVCG). 2020 - 2022.
	ACM Transactions on Interactive Intelligent Systems (TIIS). 2020 - 2021.
Publicity Chair	ACM WSDM Conference Series Web Search and Data Mining (WSDM) 2016
	ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2014
	IEEE International Conference on Data Mining (ICDM) 2014
Advisory Board	Southern Data Science Conference 2017
Journal Co-editor	ACM TKDD Special Issue on Interactive Data Exploration and Analytics (IDEA), 2015
NSF Review Panelist	Information and Intelligent Systems (IIS) Division. 2014, 2015, 2016, 2018, 2019
	Secure and Trustworthy Cyberspace (SaTC). 2018

	(CISE) Research Initiation Initiative (CRII). 2016.
Conf Area Chair	ECML-PKDD 2020 (Research Track), 2022, 2023
Session Chair	VIS 2020
	SDM 2017: Classification
	KDD 2015: Social Good
	KDD 2014: Scaling-up Graph Algorithms
Conf Associate Chair	CHI 2018 (Engineering Interactive Systems and Technologies)
	AVI 2014
Conf Senior Program Committee	PKDD 2020-22
	SIAM SDM 2019-23
	ACM IUI 2019-21
Conf Program Committee	IEEE VIS 2018-2023
	KDD 2013-2020
	SDM 2014-2020 (SIAM International Conference on Data Mining)
	ICDCS 2017
	WSDM 2015, WSDM 2016
	ACM IUI 2016
	ECML/PKDD 2013-2019
	ASONAM 2015
	SC14 (SuperComputing 2014) - Data Analytics, Visualization and Storage
	Chinese CHI 2014
Workshop Program Committee	KDD 2019 Workshop on Learning and Mining for Cybersecurity (LEMINCS)
	IEEE VIS 2017 Workshop on Visualization in Data Science (VDS)
	IEEE VIS 2015 Workshop on Exploring Graphs at Scale (IEEE EGAS)
	WWW 2015 Workshop on Diffusion, Activity and Events in Networks: Models, Methods & Applications
	WWW 2015 Workshop on Modeling Social Media - Behavioral Analytics in Social Media, Big Data and the Web
	IEEE International Conference on Data Mining (ICDM 2014) workshop on Scalable Machine Learning: Theory and Applications
	IEEE International Conference on Big Data (IEEE BigData 2014) workshop on Scalable Machine Learning: Theory and Applications
	Reliability and Security Data Analysis (RSDA 2014)
	ICDM workshop on Scalable Data Analytics: Theory and Applications
	WWW 2014 workshop on Mining Big Data in Social Media and the Web (MSM)
	ACM SAC 2014 (Symposium On Applied Computing)
	KDD 2013 workshop on **Outlier Detection and Description** (ODD)
	KDD 2014 workshop on **Outlier Detection & Description under Data Diversity** (ODD^2)
	ICDM 2012 (Demo Session)
	ECML PKDD 2012 Workshop on **Instant Interactive Data Mining**
	NIPS 2011 workshop on parallel and large-scale machine learning (**Big Learning**)
	CSCW 2012 workshop on **Personal Information Management** (PIM)
	ASIST 2009 workshop on **Personal Information Management** (PIM)
Symposium Org.	**The First Student Research Symposium**. CMU/Machine Learning Department. 2009.
Journal Reviewer	TOCHI, 2015
	IEEE's Transactions on Knowledge and Data Engineering (TKDE), 2014
	ACM Computing Surveys, 2014
	Statistical Analysis and Data Mining journal Special Issue of "Best of SDM 2014"

International Journal on Human-Computer Interaction (2014)

Data & Knowledge Engineering (DKE) Journal (2013)

IEEE Journal of Biomedical and Health Informatics (2013)

Software: Practice and Experience (2013)

IEEE Intelligent Systems (2012)

Parallel Computing (2011)

IBM Systems Journal (2007)

Conference Reviewer SDM 2014-17

KDD 2013-17

ECML/PKDD 2008-09, 2013, 2015-17

ICDM 2012

WSDM 2015-16

WWW 2008-10

IEEE BigData 2014

IEEE Vis 2017

CHI 2007-16

UIST 2007-10, 2014

IUI 2012-16

AVI 2014

SuperComputing (SC) 2014

NIPS 2013

VLDB 2008-09

HICSS 2013

International Cross Domain Conference and Workshop (CD-ARES 2013)

Seminar Organizer **Machine Learning Lunch Seminar**. CMU/Machine Learning Department. 2008-2011.

CSE Seminar Co-organizer. GT/CSE. 2012–2013 AY.

Member Association for Computing Machinery (ACM). Since 2006.

The Institute of Electrical and Electronics Engineers (IEEE). Since 2006.

HCIC (Human Computer Interaction Consortium)

Machine Learning Department (CMU) website committee

SERVICES AT GEORGIA TECH

Institute Georgia Tech Vice President for Commercialization & Chief Commercialization Officer (CCO) Search Committee, 2021.

Georgia Tech's Strategic Planning Steering Committee, Oct 2019 - May 2020.

Director of Industry Relations, The Institute for Data Engineering and Science. Since Oct 2019.

Associate Director of Corporate Relations, The Center for Machine Learning. Since Oct 2019.

Provost learning and teaching fellow. 2018-2022 AY

Associate Director, Masters of Science in Analytics. Since 8/2014.

Machine Learning Faculty Advisory Committee. Since May 2017.

Academic Faculty Senate Representative for CSE, 2015-2018 AY

Institute for Information Security & Privacy (IISP) faculty council member. Since 6/2015

Strategic Energy Institute (SEI) Faculty Advisory Council (FAC) member. July 2018 - Oct 2021.

Strategic Energy Institute (SEI) faculty member

	Institute for Data Engineering and Science (IDEaS) faculty member
	Center for Machine Learning (ML@GT) faculty member
College of Computing	Faculty Advisory Board for Communications. 2022- AY.
	Machine Learning Area Leader. 2018-2021 AY.
	Advisory board member of GT DataWorks, a new data literacy program to broaden participating in data science. Sep 2019 - Dec 2020.
CSE	Chair, Faculty Recruiting Committee, 2023- AY
	School Web Committee (Co-Chair with Bryant Wine), 2022-2023 AY
	School Web Committee (Co-Chair with Kristen Perez), 2020–2021 AY
	School Honors Committee, 2019–2020 AY, 2020–2021 AY, 2021–2022 AY
	School Reappointment, Promotion, and/or Tenure (RPT) Committee, since 2018–2019 AY
	School Advisory Committee (SAC), 2013-2014 AY, 2014-2015 AY, 2015–2016 AY, 2016–2017 AY
	Graduate Admissions Committee (CS, CSE programs), 2012–2013, 2013–2014 AY (Chair of CSE), 2015–2016 AY, 2017–2018 AY, 2018–2019 AY
	PhD Recruiting Committee (Chair of CSE), 2012–2013 AY, 2013–2014 AY
	CSE Chair Search Committee Member, 2012–2013 AY, 2019-2020 AY
	CSE Seminar Co-organizer, 2012–2013 AY
	Space Planning Committee, 2012–2013 AY
	Created *State of CSE* info graphics
IC + CSE	Visual Analytics area coordinator (with Alex Endert of IC), MS CS, 2014-2017
Student Club	Faculty advisor, Data Science @ Georgia Tech (DSGT), a data science club for Georiga Tech students.
PhD Thesis	Gaurav Verma. GT/CS. Adv: Srijan Kumar. Proposal: 05/02/24. Defense: MM/DD/YY.
	Mingshu Li. GT/CEE Adv: Baabak Ashuri. Proposal: 03/29/24. Defense: MM/DD/YY.
	Wenxin Zhang. GT/AE. Adv: Dimitri Mavris. Proposal: 04/01/24. Defense: MM/DD/YY.
	Jacob Logas. GT/Computer Interaction. Adv: Rosa Arriaga, Sauvik Das. Proposal: 12/01/23. Defense: MM/DD/YY.
	Kaan Sancak. GT/CSE. Adv: Umit Ümit V. Çatalyürek. Proposal: 11/21/23. Defense: MM/DD/YY.
	Zoe Klesmith. GT/CSE-MechE. Adv: Christopher Saldana. Proposal: 12/11/23. Defense: MM/DD/YY.
	Yue Yu. GT/CSE. Adv: Chao Zhang. Proposal: 12/03/23. Defense: MM/DD/YY.
	Dongjin Choi. GT/CSE. Adv: Haesun Park. Proposal: 11/10/23. Defense: MM/DD/YY.
	Hyungu Choi, GT/CSE-AE. Adv: Dimitri Mavris. Proposal: 06/27/23.
	Qinghai Zhou. UIUC. Adv: Hanghang Tong. Proposal: 05/02/23. Defense: 08/28/23.
	Irfan Al-Hussaini, GT/ECE. Adv: Cassie Mitchell. Co-Adv: Justin Romberg. Defense: 06/27/23.
	Arpit Narechania, GT/CS. Adv: Alex Endert. Proposal: 12/07/22.
	Danrong Zhang, GT/CSE-CEE. Adv: David Frost. Proposal: 12/01/22.
	Caleb Harris. GT/CSE-AE. Adv: Dimitri Mavris. Proposal: 12/09/21. Defense: 09/23/22.
	Rodrigo Borela. GT/CSE-CEE. Adv: David Frost. Defense: 11/29/21.
	Sooji (Susie) Ha. GT/CSE-CEE. Adv: Emily Grubert, Omar Asensio. Proposal: 01/19/2021.
	Shahrokh (Shah) Shahi. GT/CSE. Adv: Elizabeth Cherry. Proposal: 12/16/20. Defnese: 07/22/22.
	Luis Fernando Patino Ramirez. GT/CEE. Adv: Chloé Arson. Defense: 10/29/20.
	Majid Ahadi Dolatsara. GT/ECE. Adv: Madhavan Swaminathan. Defense: 01/27/21.
	Aroua Gharbi. GT/AE. Adv: Dimitri Mavris. Proposal: 12/15/20. Defense: 04/14/22.
	Rodrigo Borela Valente. GT/CSE-CEE. Adv: David Frost. Defense: 11/29/2021
	Junghyun (Andy) Kim. GT/CSE-AE. Adv: Dimitri Mavris. Proposal: 04/06/20. Defense: 03/29/21.
	Hanjun Dai. GT/CSE. Adv: Le Song. Proposal: 7/10/19. Defense: 12/3/19.
	Po Ming (Terrance) Law. GT/CS. Adv: Alex Endert, John Stasko. Proposal: 05/04/20. Defense: 04/10/21.

	Karl Gemayel. GT/CSE. Adv: Mark Borodovsky. Proposal: 12/27/19. Defense: 10/26/20.
	Weiyang Liu. GT/CSE. Adv: Le Song. Proposal: 10/11/19. Defense: 07/15/20.
	Rakshit Trivedi. GT/CSE. Adv: Rakshit Trivedi. Proposal: 10/3/19. Defense: 06/25/20.
	Yuzhi Guo. GT/CSE. Adv: David Frost. Proposal: 12/26/19. Defense: 05/07/20.
	Julia Deeb-Swihart. GT/CS. Adv: Amy Bruckman, Alex Endert. Proposal: 10/30/19. Defense: 05/26/22.
	Amrita Gupta. GT/CSE. Adv: Bistra Dilkina. Proposal: 12/17/19. Defense: 01/05/2021.
	Hang Wu. GT/ML. Adv: May Wang. Proposal: 12/12/19.
	Xiangyun (Ray) Lei. GT/Chem Eng . Adv: AJ Meford. Proposal: 11/30/18. Defense: 06/28/21.
	Hanna Kim. GT/CSE. Adv: Haesun Park. Proposal: 8/27/19. Defense: 11/18/20.
	Payam Siyari. GT/CS. Adv: Konstantinos Dovrolis. Proposal: 4/25/18. Defense: 10/17/18.
	Leilei Xiong. GT/ECE. Adv: Santiago Grijalva. Defense: 12/14/18.
	Xiaochen Zhang. GT/ECE. Adv: Santiago Grijalva. Defense: 7/24/17.
	Ahmet Cecen. GT/CSE. Adv: Surya Kalidindi. Proposal: 2/1/17. Defense: 7/20/17
	Mengmeng (Helen) Liu. GT/CSE. Adv: David Frost. Proposal: 4/18/17. Defense: 8/14/17.
	Young Jin Kim. GT/CSE. Adv: Dimitri Mavris. Co-adv: Richard Fujimoto. Proposal: 2/9/17. Defense: 7/28/17.
	Youngchul Park. GT/CSE. Adv: Dimitri Mavris. Proposal: 11/18/16.
	Hillol Sarker. Univ. of Memphis/CS. Adv: Santosh Kumar. Proposal: 4/8/16. Defense: 11/4/16.
	James Fairbanks. GT/CSE. Adv: David Bader. Defense: 3/28/16.
	Kunal Malhotra. GT/CS. Adv: Sham Navathe. Co-adv: Jimeng Sun. Proposal: 12/8/15. Defense: 11/7/16.
	Ramakrishnan (Ramki) Kannan. GT/CS. Adv: Haesun Park. Proposal: 5/5/15. Defense: 2/22/16.
	Joonseok Lee. GT/CSE. Adv: Guy Lebanon, Hongyuan Zha. Defense: 2/19/15.
	Long Tran. GT/CSE. Adv: Hongyuan Zha, Alex Gray. Proposal: 9/10/14. Defense: 1/6/15, GT/CSE
	Saeideh Bakhshi, GT/IC. Adv: Eric Gilbert. Defense: 7/1/14
	Da Kuang, GT/CSE. Adv: Haesun Park. Defense: 6/12/14
	Albert Brzeczko, GT/ECE. Adv: John Copeland. Defense: 4/2/14
	Liangda Li, GT/CSE. Adv: Hongyuan Zha. Proposal: 4/9/2014. Defense: 4/22/15
	Mengdie Hu. GT/IC. Adv: John Stasko. Proposal: 12/11/13. Defense: 4/5/17
	Zhaoming Yin. GT/CSE. Adv: David Bader. Proposal: 4/26/2013.
	Oded Green. GT/CSE. Adv: David Bader. Proposal: 3/26/2013. Defense: 3/14/2014.
	Ke Zhou. GT/CSE. Adv: Hongyuan Zha. Proposal: 1/24/2013. Defense: 8/6/13
	Soumitry Ray. GT/Civil Eng. Adv: Jochen Teizer. Proposal: 11/21/2012. Defense: 3/24/2014
PhD Qualifying Exam	Rijul Magu. GT/CS. Advs: Amy Bruckman, Diyi Yang. 04/26/24
	Mohit Chandra. GT/CS. Adv: Munmun De Choudhury. 04/15/24
	Anthony Peng. GT/CS. Adv: Polo Chau. 12/06/23
	Ben Hoover, GT/ML-CSE. Adv: Polo Chau. 04/11/23
	Seongmin Lee, GT/CS-CSE. Adv: Polo Chau. 04/17/23
	Michael Buzzy, GT/CSE-ME. Adv: Surya Kalidindi. 04/27/23
	Grayson Harrington, GT/CSE-ME. Adv: Surya Kalidindi. 04/26/23
	Zoe Klesmith, GT/CSE-ME. Adv: Christopher Saldana. 12/13/22
	Johnie Sublett. GT/CSE-AE. Adv: Dimitri Mavris. 06/24/22
	Yu Fu. GT/HCC. Adv: John Stasko. 04/15/22
	Adam Coscia. GT/HCC. Adv: Alex Endert. 04/11/22
	Takahiro Furuya, GT/CSE-CEE. Adv: Aris P. Georgakakos. 12/10/21
	Ruijia Wang, GT/CSE-CEE. Adv: David Frost. 12/06/21

Fernando Vasconcelos Da Senhora. GT/CSE-CSS. Adv: Glaucio Paulino. 11/19/21

Danrong Zhang, GT/CSE-CEE. Adv: David Frost. 11/12/21

Arpit Ajay Narechania. GT/IC. Adv: Alex Endert. 05/16/21

Austin Wright. GT/ML. Adv: Polo Chau. 04/21/21

Zijie (Jay) Wang. GT/ML. Adv: Polo Chau. 04/21/21

Caleb Harris. GT/CSE-AE. Adv: Dimitri Mavris. 04/05/21

Shenyu Xu. GT/IC. Adv: Alex Endert. 04/19/22

Yue Yu. GT/CSE. Adv: Chao Zhang. 12/08/20

Arpit Ajay Narechania. GT/IC. Adv: Alex Endert

Yuqin Yang. GT/ML. Adv: Negar Kiyavash. 11/06/20

Hayeong Song. GT/IC. Adv: John Stasko. 04/20/20

Dongjin Choi. GT/CSE. Adv: Haesun Park. 04/22/20

James Pagan. GT/CSE. Adv: Dimitri Mavris. 12/12/19

Rodrigo Borela. GT/CSE. Adv: David Frost. 11/06/2020

Ali Siahkoohi. GT/CSE. Adv: Felix Herrmann. 11/13/19

Junghyun (Andy) Kim. GT/CSE. Adv: Dimitri Mavris.12/12/19

Weiyang Liu. GT/CSE. Adv: Le Song. 10/11/19

Rakshit Trivedi. GT/CSE. Adv: Hongyuan Zha. 11/9/19

Xiaojing (Jing) An. GT/CSE. Adv: David Bader. 10/16/18

Sarmistha Dutta. GT/CS. Adv: Munmun De Choudhury. 4/13/18

Subhajit Das. GT/CS. Adv: Alex Endert. 4/8/19

Apaar Shanker. GT/CSE. Adv: Surya Kalidindi. 5/4/19

Po Ming (Terrance) Law. GT/CS. Adv: Rahul Basole. 3/31/19

Yuzhi Guo. GT/CSE. Adv: David Frost. 3/12/18

Srinivas Eswar. GT/CSE. Adv: Rich Vuduc, Haesun Park. 1/26/18

Hanjun Dai. GT/CSE. Adv: Le Song. 1/25/18

Harsh Shrivastava. GT/ML. Adv: Srinivas Aluru. 5/2/18

David Betancourt. GT/CSE. Adv: Rafi Muhanna. 11/12/19

Siddharth Biswal. GT/CSE. Adv: Jimeng Sun. 12/11/17

Sungtae An. GT/CSE. Adv: Jimeng Sun. 11/28/17

Robert Chen. GT/CSE. Adv: Jimeng Sun. 3/15/17

Amrita Gupta. GT/CSE. Adv: Bistra Dilkina. 11/30/16

Caleb Robinson. GT/CSE. Adv: Bistra Dilkina. 11/22/16

Hyunjee Jin. GT/CSE. Adv: Dimitri Mavris. 11/21/16

Fred Hohman. GT/CSE. Adv: Polo Chau. 11/17/16

Edward Choi. GT/CSE. Adv: Jimeng Sun. 11/9/16

Saman Yarmohammadi. GT/School of Building Construction. Adv: Baabak Ashuri. 12/16

Shang-Tse Chen. GT/CS. Adv: Polo Chau. 3/29/16

Sarah Karamanti. GT/CSE. Adv: Rich Vuduc. 12/3/15

Young Jin Kim. GT/CSE. Adv: Dimitri Mavris. 11/23/15

Youngchul Park. GT/CSE. Adv: Dimitri Mavris. 11/23/15

Bo Dai. GT/CSE. Adv: Le Song. 4/22/15

Minsuk (Brian) Kahng. GT/CS. Adv: Polo Chau. 4/29/15

Mehrdad Farajtabar. GT/CSE. Adv: Edmond Chow. 11/25/2014

Lluis Miquel Munguia. GT/CSE. Adv: David Bader. 11/8/13

James Fairbanks. GT/CSE. Adv: David Bader. 10/9/13.

Bo Xie. GT/CS. Adv: Haesun Park, Le Song. 11/5/14

Kunal Malhotra. GT/CS. Adv: Sham Navathe. 4/22/13

Ramakrishnan (Ramki) Kannan. GT/CSE. Adv: Haesun Park. 3/29/13

Chad Stolper. GT/IC. Adv: John Stasko. 3/27/13

Anita Zakrzewska. GT/CSE. Adv: David Bader. 12/6/12

Robert Pienta. GT/CSE. Adv: Richard Fujimoto. 10/5/12

Masters Thesis Marc-Henri Bleu-Laine. GT/AE. Dimitri Mavris. Proposal: 04/12/21.

Aroua Gharbi. GT/CSE. Adv: Dimitri Mavris. Defense: 11/18/16

Kevin flansburg. GT/CS. Adv: Taesoo Kim. Defense: 11/23/15

Kaushik Patnaik. GT/CSE. Adv: Le Song

Adam Coulon. GT/CSE (Aerospace Eng). Scott Duncan (Chair), Dimitri Mavris. Proposal: 4/2/14. Defense: 11/10/14.

Misc *Mascot Task Force* committee member. Carnegie Mellon University. 2006.

The Chinese University of Hong Kong 40th Anniversary Concert committee. 2004.

PATENTS

Inferring File and Website Reputations by Belief Propagation Leveraging Machine Reputation. Adam Wright (Symantec), Duen Horng Chau. U.S. Patent No. 8,341,745. 25 Dec. 2012.

MEDIA COVERAGE

The AI industry is hot right now. 5 experts share 4 tips for finding a job in the sector. Business Insider. February 25, 2023. Rebecca Knight, Beatrice Nolan, and Lakshmi Varanasi.

What Zillow's failed algorithm means for the future of data science. Fortune. February 01, 2022. Erick Sherman.

Why is This New Deep Learning Visualization Going Viral?. Georgia Tech. October 30, 2020.

Finally, A Site that Crops Headshots Instantly (Without Sharing Your Photos). Georgia Tech. September 17, 2020.

How Do Neural Networks Learn? episode of Two Minute Papers (102k+ view; 790k+ subsribers) featuring CNN Explainer. June 27, 2020.

Machine Learning Technique Helps Wearable Devices Get Better at Diagnosing Sleep Disorders and Quality. Georgia Tech. April 15, 2020.

Intel Joins Georgia Tech in DARPA Program to Mitigate Machine Learning Deception Attacks. Cal Jeffrey. TechSpot. April 9, 2020.

Intel Joins Georgia Tech in DARPA Program to Mitigate Machine Learning Deception Attacks. Barron's. April 9, 2020.

Intel and Georgia Tech join DARPA program to thwart attacks against machine learning. Kyt Dotson. Silicon Angle. April 9, 2020.

Intel Joins Georgia Tech in DARPA Program to Mitigate Machine Learning Deception Attacks. Yahoo! Finance. April 9, 2020.

The Critical Importance Of The Intel DARPA GARD AI Initiative: DARPA has defined a program called GARD, and both Intel and Georgia Tech have stepped up to help make us safe. Datamation. Rob Enderle. April 10, 2020.

Intel takes the lead on DARPA effort to end machine-learning spoofing. Jim Nash. April 10, 2020.

DARPA is pouring millions into a new AI defense program. Here are the companies leading the charge. Protocol. Hayden Field. April 9, 2020.

Intel involved in AI defence programme. Fudzilla. Nick Farrell. April 10, 2020.

DARPA snags Intel to lead its machine learning security tech. TechCrunch. Zack Whittaker. April 9, 2020. Also see the Japanese Tech Crunch version.

Intel, Georgia Tech join multimillion-dollar DARPA project. Seeking Alpha. Brandy Betz. April 9, 2020.

Intel Joins Georgia Tech in DARPA Program to Mitigate Machine Learning Deception Attacks. Business Wire. April 9, 2020.

Intel Joins Georgia Tech in DARPA Program to Mitigate Machine Learning Deception Attacks. Intel News Bytes. April 9, 2020

Georgia Tech and Intel Awarded Multimillion-Dollar Program to Defend Against Attacks on AI. Kristen Perez. Georgia Tech CSE. April 8,

2020

Virtual, augmented reality platforms emerge as computer science teaching tool. Lauren Barack. Education Dive. March 13, 2019

K–12 Teachers Use Virtual and Augmented Reality Platforms to Teach Coding. Eli Zimmerman. EdTech. Feb 28, 2019.

These Wearables Detect Health Issues Before They Happen. Elizabeth Woyke. **MIT Technology Review**. 11/30/16.

Feature: Can your mobile phone make you healthier?. Kelly Servick. **Science Magazine**. 12/10/2015.

The Secret World of Stolen Smartphones, Where Business Is Booming. Matthew Shaer. **Wired**, 12/18/14.

LatentGesture: Active Mobile Device Authentication

Personal Touch Signature Makes Mobile Devices More Secure. Georgia Tech Press Release. April 7, 2014. Jason Maderer.
Forget fingerprints: Your phone could lock out thieves by learning your 'touch signature'. Digital Trends. April 9, 2014. Christian Brazil Bautista.
Researchers teach smartphones to recognize your activity, lock out everyone else. Engadget. Apr 7, 2014. Billy Steele.
LatentGesture learns your unique touch signature, keeps everyone else out. Android Authority. Apr 9, 2014. Elmer Montejo.
LatentGesture Recognizes Touch for Added Security Display Central. Apr 18, 2014. Arthur Berman.
Georgia Tech researchers want to kill the smartphone passcode with "touch signature." Atlanta Business Chronicle. Apr 9, 2014. Urvaksh Karkaria.
LatentGesture learns a smartphone's owner by touch and can lock the phone if it's used by another. Pocket-lint. Apr 9, 2014. Luke Edwards.
LatentGesture: A Promising Future For Smartphone Security. Information Security Buzz. Apr 8, 2014. David Bisson.
New innovation could put an end to smartphone thefts forever Yahoo News. Apr 9, 2014. Brad Reed.
LatentGesture to make mobile devices more secure. Digit. Apr 9, 2014. Silky Malhotra.
LatentGesture Uses Your Screen Taps & Swipes To Provide Security. Crazy Engineers. Apr 8, 2014. Ankita Katdare.
LatentGesture Makes Smartphones Recognize You By Touch. Engismo. April 10, 2014. Mansoora Mubashra.
The LatentGesture App Works Behind the Scenes to Keep Phones Safe Trend Hunter Apr 9, 2014. Jamie Danielle Munro.
Inkblots and gestures: Getting creative about security. GCN. May 27, 2014. Patrick Marshall.
Tap And Swipe On Your Mobile, LatentGesture Will Identify You! RTT News. Apr 9, 2014.

Yahoo Faculty Research and Engagement Program (FREP) Award by Yahoo! Labs. (GT press releases 1 & 2)

"Fraudsters on Internet Auction Sites Often Leave Trail Leading to Crimes", Lee Gomes, **The Wall Street Journal**, December 6, 2006.

"Researchers: Software Can Nip eBay Fraud in The Bud", Bob Sullivan, **MSNBC**, December 8, 2006.

KQV Radio live interview, Host: Frank Gottlieb, December 10, 2006.

"Researchers Developing Anti-Fraud Tool", Joe Mandak, **The Associated Press**, December 11, 2006. Also appeared in over 100 newspapers around the world, including **USA Today**, **Los Angeles Times**, **The Washington Post**.

"CMU Develops Program To Online Auction Fraud", Keith Jones, **KDKA-TV News**, originally aired December 12, 2006.

BizRadio live interview, Host: Brent Clenton, December 13, 2006

"Online Auction Frauds Not As Clever As They Think, Researchers Say", Alpha Doggs, **Network World**, December 5, 2006.

DESIGN AWARDS & LEADERSHIP

2006 **Winner**, Carnegie Mellon ID card design contest.
Winner, *Graduate Student Assembly* logo design contest. Carnegie Mellon University.
Winner, *Language Technologies Institute* T-shirt design contest. Carnegie Mellon University.

2005 **Design lead**, HCI Masters capstone project. Client: *Office of Naval Research*.

2004 **Winner**, webpage design contest for the *New Asia College* homepage. The Chinese University of Hong Kong.
Lead graphics designer, The Chinese University of Hong Kong 40th Anniversary Concert.

1999 - 2000 **Art Director** of school yearbook. Diocesan Boys' School (Hong Kong).

ART INSTALLATIONS

Butterflies
Installed at the Pittsburgh Children's Museum on March 5, 2009
Team: Jesse Chorng, Joanna Ricou, Polo Chau

The Curator
Installed at the Pittsburgh Children's Museum on April 25, 2009
Team: Polo Chau François Chu, Sue Ann Hong, Patrick Gage Kelley

SKILLS

HCI	Contextual inquiry Think-aloud protocol Cognitive walkthrough Heuristic evaluation GOMS Persona Focus groups Rapid paper prototyping
Programming	Java C++ C SQL VB Assembly JavaScript ActionScript CSS PHP ASP XML HTML
Design	Affinity Designer Photoshop Illustrator Premiere InDesign Flash Lightwave 3D 3D Studio MAX
Music	Pianist (30+ years) Cellist (30+ years) High school string orchestra conductor Chamber music group member Choir member
Languages	English Mandarin Cantonese (native)