

Emily Wall

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Education

PhD in Computer Science

GEORGIA INSTITUTE OF TECHNOLOGY

Advised by Dr. Alex Endert

Atlanta, GA

2015 - present

B.S. in Computer Science and Mathematics

UNIVERSITY OF GEORGIA

summa cum laude

Athens, GA

2015

Publications

- **E. Wall**, L. Blaha, L. Franklin, and A. Endert, "Warning, Bias May Occur: A Proposed Approach to Detecting Cognitive Bias in Interactive Visual Analytics", *IEEE Visual Analytics Science and Technology (VAST)*, 2017.
- **E. Wall**, S. Das, R. Chawla, B. Kalidindi, E. Brown, and A. Endert, "Podium: Ranking Data Using Mixed-Initiative Visual Analytics", *IEEE Transactions on Visualization and Computer Graphics (Proc. VAST'17)*, 2017.
- **E. Wall**, L. Blaha, C. Paul, K. Cook, and A. Endert, "Four Perspectives on Human Bias in Visual Analytics", *DECISIVE: Workshop on Dealing with Cognitive Biases in Visualizations (at InfoVis'17)*, 2017.
- S.K. Badam, Z. Zeng, **E. Wall**, A. Endert, and N. Elmqvist, "Supporting Team-First Visual Analytics through Group Activity Representations", *Graphics Interface*, 2017.
- B.C. Kwon, H. Kim, **E. Wall**, J. Choo, H. Park, and A. Endert, "AxiSketcher: Interactive Nonlinear Axis Mapping through User's Drawing on Visualization", *IEEE Transactions on Visualization and Computer Graphics (Proc. VAST'16)*, 2016.
- **E. Wall** and D. Potter, "Using Artificial Neural Networks to Predict Solar Radiation in Georgia", *University of Georgia CURO Symposium*, 2015.

Presentations

Invited Talks

- **E. Wall** and A. Endert, The Interactive Analytics Library: Treating Interaction as Data, Invited Talk, *Pacific Northwest National Laboratory*, Richland, WA, May 2017.

Posters and Demonstrations

- **E. Wall**, L. Blaha, and L. Franklin, and A. Endert, Warning, Bias May Occur: A Proposed Approach to Detecting Cognitive Bias in Interactive Visual Analytics, Demonstration, *Georgia Tech GVU Demo Showcase*, Atlanta, GA, April 2017.
- **E. Wall**, S. Das, B. Kalidindi, R. Chawla, E. Brown, and A. Endert, *Podium: Ranking Data Using Mixed-Initiative Visual Analytics*, Poster and Demonstration. Presented at:
 - *Georgia Tech GVU Demo Showcase*, Atlanta, GA, April 2017.
 - *CRA-W Grad Cohort*, San Diego, CA, April 2016.
 - *Georgia Tech GVU Demo Showcase*, Atlanta, GA, April 2016.
- **E. Wall** and D. Potter, Using Artificial Neural Networks to Predict Solar Radiation in Georgia, Poster, *University of Georgia CURO Symposium*, 2015.

Research

Georgia Institute of Technology

GRADUATE RESEARCH ASSISTANT

• Advised by Dr. Alex Endert.

- Researching the detection and mitigation of cognitive bias in visual analytic systems based on user interaction patterns.

Atlanta, GA

2015-present

Pacific Northwest National Laboratory

INTERN (NATIONAL SECURITY INTERNSHIP PROGRAM)

• Mentored by Lyndsey Franklin and Kris Cook.

- Developed heuristic metrics for detecting a user's bias in visual analytics systems based from interaction patterns.

Richland, WA

Summer 2016

Jet Propulsion Laboratory

Pasadena, CA

INTERN (SPACE GRANT PROGRAM)

2013-2015

- Mentored by Marc Sarrel.
- Automated and visualized the determination of data flow across ground system. Used SysML and principles of Model-Based Systems Engineering to model the ground system of Lockheed Martin's Orion Capsule.

University of Georgia

Athens, GA

RESEARCH ASSISTANT

Fall 2014

- Dr. Don Potter, Professor of Computer Science and director of the Institute for Artificial Intelligence.
- Used artificial neural networks to predict solar radiation in Georgia. Funded by the Georgia Power Advanced Solar Initiative.

University of Georgia

Athens, GA

RESEARCH ASSISTANT

Fall 2013

- Dr. Liming Cai, Professor of Computer Science and Computational Biology and director of the RNA Informatics Lab.
- Used sequence alignment of RNA for detecting coevolution in species with a common ancestor.

University of Georgia

Athens, GA

RESEARCH ASSISTANT

Spring 2013

- Dr. Prashant Doshi, Professor of Computer Science and director of the THINC Lab.
- Extended GaTAC (Georgia Testbed for Autonomous Control of vehicles) by creating simulation and programmable interface for quadcopters. Applications to autonomous decision-making in UAVs in multi-agent setting using Parrot A.R. Drone quadcopters.

Teaching

Guest Lectures

- *Bias in Visual Analytics*, Guest Lecture, Information Visualization (CS 7450), Georgia Tech, Atlanta, GA, December 2017.
- *Visual Analytics*, Guest Lecture, Information Visualization (CS 7450), Georgia Tech, Atlanta, GA, November 2017.
- *Visualization Design: Do's and Don'ts*, Guest Lecture, Introduction to Information Visualization (CS 4460), Georgia Tech, Atlanta, GA, June 2017.

Teaching Assistant

- Information Visualization (CS 7450), Georgia Institute of Technology, Atlanta, GA, Fall 2017.
- Introduction to Computing and Programming (CSCI 1301), University of Georgia, Athens, GA, Fall 2012 and Fall 2013.

Honors & Awards

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| 2017 | Graduate Student Symposium Participant , AT&T Labs | New York, NY |
| 2017 | Doctoral Colloquium Participant , IEEE Vis | Phoenix, AZ |
| 2017-pres. | National Physical Science Consortium (NPSC) Fellowship , Recipient | Atlanta, GA |
| 2017 | NSF Graduate Research Fellowship Program , Honorable Mention | Atlanta, GA |
| 2017 | Department of Defense SMART Fellowship , (Declined) | Atlanta, GA |
| 2016 | Travel Scholarship Recipient , Grace Hopper Celebration of Women in Computing | Houston, TX |
| 2016 | Travel Scholarship Recipient , CRA-W Grad Cohort Workshop | San Diego, CA |
| 2015-pres. | President's Fellowship , Georgia Institute of Technology | Atlanta, GA |
| 2015 | CURO Symposium Best Paper Award , University of Georgia | Athens, GA |
| 2014 | CURO Research Assistantship , University of Georgia | Athens, GA |
| 2014 | Hahn Family Scholarship for Computer Science , University of Georgia | Athens, GA |
| 2013 | John G. Hollingsworth Award for Excellence in Mathematics , University of Georgia | Athens, GA |
| 2012-2015 | Zell Miller Scholarship , University of Georgia | Athens, GA |

Mentoring

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| 2017 | Qiaochu Mu , M.S. HCI, Class of 2018, Usability testing and prototyping for bias mitigation | Georgia Tech |
| 2017 | Yingxiao Ouyang , M.S. HCI, Class of 2019, Usability testing and prototyping for bias mitigation | Georgia Tech |
| 2016-2017 | Bharath Kalidindi , B.S. Computer Science, Class of 2018, Ranking data based on user interaction | Georgia Tech |

Service

- **Program Committee Member.** CHI Late Breaking Work 2018.
- **Reviewer.** KDD IDEA 2017. VAST 2017. VAST Challenge 2016.
- **Panelist.** Advancing Visualization Inclusion and Diversity (AVID) Workshop, *IEEE Vis*, Phoenix, AZ, October 2017.
- **Graduate Student Council Travel Committee.** 2017. Responsible for awarding travel grants to graduate student applicants.

Professional Development

- Grace Hopper Celebration of Women in Computing, *Houston, TX*, October 2016.
- CRA-W Grad Cohort Workshop, *San Diego, CA*, April 2016.

Coursework

- Information Visualization
- Human-Computer Interaction
- Machine Learning
- (*) Cognitive Psychology

(*) denotes in progress