

YUNBO ZHANG

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EDUCATION

Georgia Institute of Technology

B.S. in Computer Science

August 2015 - May 2018

Focus on Modeling & Simulation and Artificial Intelligence

Overall GPA: 3.95/4.0

Ph.D in Computer Science

August 2018 - Present

Focus on Reinforcement Learning, Character Animation, and Robotics Control

PUBLICATIONS

- **Yunbo Zhang**, Wenhao Yu, and Greg Turk. "Learning Novel Policies For Tasks." International Conference on Machine Learning. 2019.
- **Yunbo Zhang**, Wenhao Yu, C.Karen Liu, Charles C Kemp, Greg Turk. "Learning to Manipulate Amorphous Materials" SIGGRAPH Asia, 2020.

RESEARCH PROJECTS

In-hand Manipulation From Motion Capture

Jan 2019-May 2020

- Aim to train policies to control hand to complete in-hand manipulation tasks from motion capture data.

Robotic Manipulation for Deformable Body

Jan 2019-May 2020

- Aim to train control policies for simulated robot to manipulate deformable bodies through simulation.

Swimming Creature Simulation

May 2017-Aug 2017

- Used Covariance Matrix Adaptation (CMA-ES) to solve for locomotion controllers for swimming creatures.
- Found locomotion controllers for creatures with various body plans (sea turtles, eels, and flatworms).

COURSE PROJECTS

- Tinkertoy simulator (C++ and OpenGL)
- Inverse Kinematic Solver (C++ and OpenGL)
- Flocking simulator with collision avoidance. (Processing)
- Diffusion-Reaction simulator for pattern generation (Processing)
- Procedural tree generator (Unity)
- Procedural "dragon" generator using Blobby implicit surfaces(Unity)
- Ray tracer that supports rendering for cones, cylinders, spheres, and triangle meshes.(Processing)

EXPERIENCES

Facebook Reality Lab

Research Intern

Redmond, WA

May 2020 - Aug 2020

- Applying DeepMimic to train control policy for in-hand manipulation to mimic motion capture data.

PegasusCRM

Front-end/Back-end Developer

Decatur, GA

Summer 2017 , Fall 2016

- Performed operational and developmental tasks while working on a LAMP stack as a full-stack web developer.
- Developed the database and data processing pipeline for the company's calendar that enables integration and synchronization with Google Calendar.
- Developed a pipeline in PHP that parses and calculates data from financial residual files.

SKILLS

Programming Languages

Python, Java, C++, C, C#, Matlab, PHP,

Deep Learning Libraries

Tensorflow, Theano, Lasagne, Karas, Scikit-learn, OpenAI Baseline

Computer Graphics and Simulation Tools

Processing, OpenGL, DART, FleX