Meredith Young-Ng

https://github.com/MeredithYoung-Ng
Email: meredith_young-ng@brown.edu, Cell: [redacted]

EDUCATION

BROWN UNIVERSITY Providence, RI
Master of Science in Computer Science *Expected May 2021*
- **Fall 2019 Coursework**: Vision for Graphics and Interaction ♦ User Interfaces and User Experience

CORNELL UNIVERSITY Ithaca, NY
Bachelor of Science in Computer Science, Cum Laude | Minor: Information Science **GPA**: 3.74 *May 2019*
- **Relevant Coursework**: Interactive Computer Graphics ♦ Rapid Prototyping & Physical Computing ♦ Algorithms ♦ Ubiquitous Computing ♦ Human-Robot Interaction ♦ Artificial Intelligence ♦ Linear Algebra ♦ Operating Systems ♦ Embedded Systems

RELATED EXPERIENCE

BROWN HUMAN-COMPUTER INTERACTION LAB, *Research Assistant* *Aug. 2019-Present*
- Currently working with Professor Jeff Huang on testing mobile hand-tracking methods for the Portal-ble augmented reality system
- Design and fabricate a wearable peripheral device to increase AR field of view, communicating with mobile phone via Websockets

BROWN DEPARTMENT OF COMPUTER SCIENCE, *Head Teaching Assistant* *Sept. 2019-Present*
- HTA for Designing Humanity Centered Robots (Fall 2019); teach basic microcontroller and fabrication skills (CAD) to entire class
- Critique student designed robot projects; contribute to design process from storyboarding to cardboard and high-fidelity prototypes

CORNELL GRAPHICS AND VISION LAB, *Research Assistant & Summer 2018 REU* *May 2018-Aug. 2019*
- Simulated a 3D knitting machine (CrochetMatic) under Professor Steve Marschner and Professor François Guimbretière by constructing 3D stitch mesh-like polyline block models in Blender and a pipeline to convert these models into B-splines
- Built a GPU cloth rendering pipeline to simulate input knitting patterns and generate images of fabric throughout simulation
- Adjusted parameters to simulate the twisting of a rod in a CPU simulator as described in Columbia's Discrete Elastic Rods paper

CORNELL DEPARTMENT OF COMPUTER SCIENCE, *Teaching Assistant* *Aug. 2018-May 2019*
- TA for Introduction to Analysis of Algorithms (Spring 2019) and Introduction to Computer Graphics (Fall 2018)
- Held weekly office hours to help students with written and programming assignments, and review concepts
- Answered student questions on online Q&A Piazza forum; graded written and programming assignments and exams

CORNELL RESISTANCE RACING, *Data Acquisition Backend Programmer* *Sept. 2016-Sept. 2018*
- Designed, tested, and implemented data acquisition system using the Particle Electron and a Raspberry Pi to handle I^2C, SPI, and UART communications with the battery management system, motor controller, and sensors to send data to the Particle Cloud
- Collaborated with a 25+ person team to build a battery electric vehicle; placed 5th in the international 2018 Shell Eco-Marathon
- Programmed the CANBUS communication system for electrical systems in VCL to build the team's 2016 electric motorcycle

STANFORD iD TECH CAMPS, *Java Coding Instructor* *June 2017-Aug. 2017*
- Taught and designed weeklong introductory Java Coding curriculum to a group of 8 high school students with varying programming experience; lesson plans covered topics ranging from variables and basic operations to objects and linked lists
- Culminated course with individual student projects ranging from a portfolio of Project Euler solutions to multithreaded images

PROJECTS

TILE TUNES (Introduction to Rapid Prototyping and Physical Computing, Cornell University) *Aug.-Dec. 2018*
- Designed and fabricated a line tracking robot that plays musical compositions corresponding to colored tiles with 2 team members
- Implemented colored tile detection, a graphical OLED display, and audio through I^2C, SPI, and UART using an Adafruit Feather M4

OPEN WORLD DRIVER (Interactive Computer Graphics, Cornell University) *Apr.-May 2019*
- Programmed a one-player driving open world simulation with procedurally generated terrain using OpenGL with 2 other teammates
- Implemented directional shadows via shadow maps, first and third person camera view controls, and specular flowing water in C++

SKILLS/INTERESTS

PROGRAMMING LANGUAGES: Java, Python, Javascript, OCaml, C, HTML, CSS, R, MATLAB, LaTeX
FABRICATION SKILLS: CAD (Fusion 360), Laser Cutting, 3D Printing, Woodworking
INTERESTS: Violin ♦ Piano ♦ Brown | RISD Design for America ♦ Electric Cars ♦ Pokémon ♦ Creative Writing
OUTREACH: Cornell Engineering Peer Advisor (2017-2019), Cornell Society of Women Engineers (Community Outreach Chair 2017-2018, High School Outreach Chair 2016-2017), Cornell CURIE Academy (Program Assistant 2019, Volunteer 2018)