Jimmy Ruan

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Education

University of Michigan <div align="right">Ann Arbor, MI</div>
B.S.E. in Computer Science <div align="right">*Dec 2019*</div>
• *Dean's List - Apr 2019*

Experience

University of Michigan School of Information <div align="right">*May 2019 – Sep 2019*</div>

Research Assistant
• Allowed students who participated in a workshop to create physical models of their designs by implementing an STL converter in Python
• Reduced cost to integrate STL conversion into web applications by creating a flexible web interface for said converter.
• Tutored students and teachers how to use the research group's website design software in supervised workshops

UM Autonomy <div align="right">*Nov 2015 – Oct 2016*</div>
• Helped test and maintain the autonomous boat to ensure that the autonomous boat can endure a voyage on the race course
• Improved the navigational accuracy of the autonomous boat by writing drivers for the boat's onboard camera using C++

Strength Augmenting Robotic Exoskeleton <div align="right">*Oct 2017 – Oct 2018*</div>
• Designed the air muscle pneumatic components for a two-armed exoskeleton
• Ensured operator safety and comfort by testing the one-armed air muscle control and mechanical component

Projects

Project Runtime Analysis
• Developed a Python script to run programs and save run-time results in a .csv file
• Used the collected data to identify code that has the most performance impact on an application

Road Radar
• Designed the app's user interface and conceptualized its features and developed storyboards illustrating the app's GUI and their connections
• Allowed accurate pinpointing of potholes despite possibly unreliable user reporting by developing a heat map to visualize report precision and consensus
• Surveyed the road conditions, collected pothole data from the city of Ann Arbor, and conducted field testing of the app by driving around with the app

Custom Web Search Engine
• Implemented useful components for a generalized HTML parser of a search engine using C++
• Developed components that allows a web crawler to read and parse links using C++

Skills

• **Languages:** Python, C++, C, Bash, HTML, CSS, Javascript, SQL, Matlab, Scheme, Java, Prolog

• **Frameworks/Libraries**: Django, Flask, ReactJS, React-Native

• **Others:** Linux, Git, Hadoop, Nginx, AWS