Ahad Rauf

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EDUCATION

University of California, Berkeley *Aug 2016 – June 2020*

B.S., Electrical Engineering and Computer Science (EECS), GPA: 3.953

- Relevant Courses: Introduction to Robotics (EECS C106A), Introduction to MEMS (EE 147), Introduction to Embedded Systems (EE 149), Feedback Control Systems (EE C128), Analog Integrated Circuits (EE 140), Signals and Systems (EE 120), Computer Architecture (CS 61C)

WORK EXPERIENCE

Robotics Engineering Internship *May 2018 – Aug 2018*

OURS Technology, Inc.

- Developed a high precision automatic testing system for on-chip optical waveguides
- Designed the entire testing pipeline, including machine learning object detection for chip detection, 200-nm precision scanning for accurate waveguide-fiber alignment, and multithreaded data processing for efficient 8-axis motion control
- Configured company GPU servers for efficient machine learning support and LDAP network access
- Wrote bash and Python scripts to remotely diagnose motion control hardware failures

Robotics Engineering Internship *Sept 2017 – Dec 2017*

Elysian Labs

- Customized drones for research into efficient autonomous tracking systems
- Designed a low-power IR receiver and noise filter to accurately locate the transmitter from far away, as well as a sensor that could be used to automatically adjust the drone's path to avoid obstacles
- Developed a drone swarm simulation software to model optimal task distribution for up to 1000 drones during common group flight maneuvers

RESEARCH

Device Physics Research Assistant *Jan 2018 – Dec 2018*

Advisors: Niklas Roschewsky, Sayeef Salahuddin

- Designed 3-mask ferromagnetic resonance stack to measure the DC voltage generated by Al/Pt/Py spin pumping; optimized mask layout and processing for high-efficiency operation
- Proposed and constructed a new quadrupole magnet testing station for generating highly uniform magnetic fields up to 150 mT with controllable orientation

Machine Learning Research Assistant *Jan 2018 – May 2018*

Advisors: Ke Li, Jitendra Malik

- Explored new neural net configurations to enhance image quality and variation when generating novel images given a high-dimensional data distribution
- Improved progressive training of generative adversarial networks (GANs) to reduce training time and remove potential sources of instability

HONORS

Dorm Ex Machina Competition *Sept 2016 – Nov 2016*

Robotics@Berkeley Club, UC Berkeley

- Designed and built robotic trash can to promote responsible waste disposal in line with UC Berkeley's Zero Waste Project; streamlined disposal through robotic sensing and voice activation
- Received "Most Useful Product" award for exceptional focus on environmental awareness
- Customized noise reduction algorithms to improve voice recognition reliability by 25%

Cal Alumni Association Leadership Award *May 2016*

- Chosen based on effective leadership in academics and extracurricular activities

Regents' and Chancellor's Scholarship *March 2016*

- Highest UC Berkeley merit award recognizing top 2% of incoming students

Verizon Innovative App Challenge Best in Region Award *Jan 2015*

- Awarded for creativity in designing mobile apps to enhance early childhood education
- Ranked among the top 12 high school participants in the nation

TECHNICAL SKILLS

- Proficient at C++, Java, Python, MATLAB, ROS, and Linux
- Skilled at Cadence-based circuit design and Autodesk Fusion 360-based CAD design