Ahad Rauf

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EDUCATION

University of California, Berkeley *Aug 2016 – June 2020*
B.S., Electrical Engineering and Computer Science (EECS), GPA: 3.957
- Relevant Courses: Designing Information Devices and Systems, Feedback Control Systems, Signals and Systems, Integrated Circuit Devices, Analog Integrated Circuits, Computer Architecture, Data Structures, Electromagnetism and Optics

RELEVANT EXPERIENCE

Robotics Engineering Internship *May 2018 – Aug 2018*
OURS Technology, Inc.
- Developed a custom 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 and socket interfacing 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

Firmware Programmer *Aug 2016 – June 2017*
Solar Vehicle Team, UC Berkeley
- Designed and prototyped telemetry encryption firmware for low-memory, high-throughput, and fault-tolerant data transmission for electric cars; programmed entire pipeline from CAN bus firmware to data analytics to protocol buffer encryption and transmission
- Programmed firmware for an OLED debugging board; designed 2D graphics libraries from scratch for general purpose display usage and CAN bus data aggregation

PROJECTS

Device Physics Research Assistant *Jan 2018 – June 2018*
Advisors: Samuel Holladay, Sayeef Salahuddin
- Designed 3-mask lithographic stack to measure the DC voltage generated by spin pumping
- Referenced prior literature and optimized mask design and layout for high-yield manufacturing

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%

HONORS

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, JavaScript, and Linux
- Skilled at Cadence-based circuit design and Autodesk Fusion 360-based CAD design