

Ibrahim Awwal

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Education

- Fall 2013–Present **Phd Student, Electrical and Computer Engineering**, *University of California, San Diego*,
Concentration: Intelligent Systems, Robotics, and Control.
GPA: 3.30
- Fall 2008–Spring 2012 **Bachelor of Science, Electrical Engineering and Computer Science**,
University of California, Berkeley.
GPA: 3.79

Relevant Coursework

- Graduate Statistical Learning, Parameter Estimation, Digital Signal Processing, Digital Image Processing, Random Processes, Convex Optimization, Machine Learning, Robotics, Computer Vision, Embedded Systems, Compressed Sensing
- Undergraduate Digital Design, Computer Architecture, Digital Integrated Circuits, Microelectronic Devices and Circuits, Machine Structures, Mechatronic Design, Feedback Control, Signals and Systems, Computer Graphics, Artificial Intelligence

Research

- February 2015–Present **Mobile Devices**, *University of California, San Diego*, La Jolla, CA.
Characterization and analysis of current and future user workloads, with an emphasis on the memory subsystem, for mobile devices. PI: Professor Tajana Rosing.
- January–June 2014 **Brain Machine Interfaces**, *University of California, San Diego*, La Jolla, CA.
Worked on analyzing micro-electrocorticography signals for use in prosthetic devices. PI: Professor Vikash Gilja.
- Sept 2010–Dec 2012 **Undergraduate Researcher**, *University of California, Berkeley*, Berkeley, CA.
Personal robotics research in Professor Pieter Abbeel's PR2 lab. Worked on automating laundry related tasks and motion planning using convex optimization.

Teaching

- March–June 2014 **CSE 20 TA**, *University of California, San Diego*, La Jolla, CA.
Introduction to Discrete Math for Computer Science.
- Sept–Dec 2014 **CSE 103 TA**, *University of California, San Diego*, La Jolla, CA.
Introduction to Probability and Statistics. Taught and developed software for analyzing students' mistakes, including parsing and front end web development.
- Jan–May 2012 **EE40 Head Lab TA**, *University of California, Berkeley*, Berkeley, CA.
Introduction to Microelectronic Circuits. Managed other lab TAs, served as the interface between instructor, TAs, students. Also coordinated logistics with local vendors for final project where students built an EEG amplifier board.
- Aug–Dec 2011 **EE20n TA**, *University of California, Berkeley*, Berkeley, CA.
Teaching assistant for EE20n, Structure and Interpretation of Signals and Systems, focused on teaching signals and systems using Labview software.

Work Experience

- May–Aug 2012, **Full Stack Software Engineer**, *Gradescope*, Berkeley, CA.
Initial lead developer for Gradescope, an online web application for facilitating exam grading. Worked on frontend, backend, and devops related tasks
- Jan–Aug 2013
Front End Engineer, *edX*, Cambridge, MA.
Developed discussion forum front end software for edX.org's initial launch.
- June–Aug 2010 **Intern**, *Lawrence Livermore National Lab*, Livermore, CA.
Researched and implemented algorithms for detecting duplicate passages in large bodies of text, using Hadoop MapReduce and HBase.

Publications

J Schulman, J Ho, A Lee, I Awwal, H Bradlow, and P Abbeel. Finding locally optimal, collision-free trajectories with sequential convex optimization. *Robotics: Science and Systems*, 9(1):1–10, 2013.

Projects

- Mechatronics Built a mechatronic car with magnetic line-following for the NATCAR competition.
- 32 bit CPU Designed and implemented a 3 stage pipelined MIPS CPU on FPGA for CS150, Digital Design
- SRAM Array Design, schematic, and layout of a 16x20 (5 bit word) SRAM array, address decoder, and flash ADC decoder using Cadence tools. Optimized for low power and speed.
- Game AI Worked on AI bots for Starcraft: Brood War for class, fun, and AIIDE competition.

Skills

- Languages Matlab, Java, C, C++, Python, Ruby, Bash, Lisp, \LaTeX
- Software Android, Cadence Virtuoso, SPICE, Xilinx, ROS, Git, Linux, Labview
- Web AngularJS, Backbone.js, React, Bower, Grunt, Ruby on Rails, Django, Ansible, AWS

Honors

- Powell Fellow Recipient of Powell Graduate Fellowship from the UCSD ECE department