Ashwin Balakrishna

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EDUCATION

UC Berkeley (PhD EECS – Robotics and Artificial Intelligence) **Aug 2018 – Present**
Caltech (BS Electrical Engineering) **Sep 2014 – Jun 2018**

EXPERIENCE

Industry

Avionics Intern in Power Electronics Group [SpaceX] **Jun 2017 – Sep 2017**

- Built high-fidelity, efficient mathematical models for Falcon 9 Rocket Power System

Hardware Engineering Intern on Integrated Sensor Hub Team [Intel] **Jun 2016 – Sep 2016**

- Power systems analysis for firmware testing

Research

PhD Student Researcher in the AUTOLAB at UC Berkeley **July 2018 – Present**

- Working on learning task decompositions to enable efficient generalization and transfer for robotic manipulation

Cardiac Monitoring via Intraocular Optical Implant [Choo Lab – Caltech] **Sept 2017 – Dec 2017**

- Extracting high resolution cardiac signals and associated signal parameters from sensor measurements

Real-Time Earthquake Detection [Seismology Lab – Caltech] **Mar 2017 – Jun 2017**

- Improving accuracy and speed of California Earthquake Early Warning System

Signal Processing for Intraocular Pressure Measurement [Choo Lab – Caltech] **Jun 2015 – Jun 2017**

- Wrote software to determine theoretical reflection spectra for a given IOP and extract IOP measurement from experimental reflection spectra for an optics-based IOP sensor

System for Solar UAV Optimization [Aerospace Computing Lab – Stanford] **Jun 2013 – Sep 2014**

- Built software system to perform design and trajectory optimization of a solar aircraft to achieve theoretically perpetual flight with optimal energy efficiency

Teaching

Undergraduate TA for EE 111: Signals and Systems [Caltech] **Sep 2017 – Dec 2017**

- Held office hours and graded problem sets for introductory signal processing class

HONORS

NSF GRFP Recipient [Caltech, UC Berkeley] **Apr 2018**
National graduate fellowship awarded to top STEM graduate students

Henry Ford Award for Electrical Engineering [Eng & Applied Sciences Dept – Caltech] **Apr 2017**
Prize given to engineering student with top academic record in department in third academic year

SKILLS

Software Languages (Python, C++, C, Java) **Data Science/Machine Learning** (R, NumPy, SciPy, Pandas, Scikit-Learn, Tensorflow, PyTorch, Keras, XGBoost) **Mathematical** (MATLAB, Mathematica, Modelica, GAMS)
Hardware Circuits (Analog Electronics, Feedback and Control Circuits, Power Electronics)
Embedded Systems (Intel 80188 Processor, Blackfin ADSP Processor, Arduino)