Ashwin Balakrishna

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EDUCATION

UC Berkeley (PhD EECS – Robotics and Artificial Intelligence)
Caltech (BS Electrical Engineering)

Aug 2018 – Present 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

<u>Software</u> Languages (Python, C++, C, Java) <u>Data Science/Machine Learning</u> (R, NumPy, SciPy, Pandas, Scikit-Learn, Tensorflow, PyTorch, Keras, XGBoost) <u>Mathematical</u> (MATLAB, Mathematica, Modelica, GAMS)

<u>Hardware</u> Circuits (Analog Electronics, Feedback and Control Circuits, Power Electronics)

Embedded Systems (Intel 80188 Processor, Blackfin ADSP Processor, Arduino)