Amay Saxena

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My academic and career interests lie primarily in the fields of software engineering, robotics, deep learning for autonomous systems, and controls. I am currently seeking software or hardware internships for summer 2018.

Education

B.S. Electrical Engineering and Computer Science

University of California, Berkeley

Fall 2016 - Present (GPA - 3.6 / 4.0)

B.A. Pure Mathematics with Physics Minor

University of California, Berkeley

Fall 2016 - Present (GPA - 3.6 / 4.0)

Coursework

Graduate:

- EECS 221A - Linear Systems and Control Theory

Undergraduate:

- CS 188 - Artificial Intelligence
- EE 120 - Signals and Systems
- EE 16B - Designing Info Devices and Systems

Skills

Software:

- Over 10,000 lines: Java | Python | LaTeX | Shell
- Familiar: Lisp | C++ | Tensorflow | Keras

Other:

- Microcontrollers | Robotics | Control Theory | Deep Learning| Signals & System Design

Academic Activities & Positions

Course Staff

UC Berkeley Dept of EECS

Spring 2017 - Present

- Academic intern (course staff) for the courses CS61A, CS70, and EE16B, UC Berkeley's flagship intro EECS sequence.
- Responsibilities include lab assistantship, teaching office hours and HW/Project review sessions.

William Lowell Putnam Mathematical Competition

Mathematical Association of America

Fall 2016

- An annual mathematical competition for undergraduate students
- Rank: Top 1000.

Experience

Oracle Financial Services Software

Software Intern, Flexcube Core Banking Solutions

Summer 2017

- Worked on migration of upgrades and added features to new version of the core Flexcube software. [Java, Oracle]

RobotStudio

Co-Founder (Engineering and Tech)

Spring 2017 - Present

- Personal robotics company developing multiplayer educational robotics game designed to teach K12 students the basics of programming. Developing robot and companion app using Arduino, C++, ROS, and Android. Winners of Berkeley Robotics For Good '17

Undergraduate Lab at Berkeley (ULAB)

Research Mentor, Autonomous Systems lab

Fall 2017 - Present

- I am working as a research mentor to a team of undergraduate researchers studying AI safety through adversarial attacks on deep learning systems.

Awards & Honors

Research Fellow, CITRIS and The Banatao Institute

Fall 2017

Merit-based Human-Computer Interaction fellowship at the UC Berkeley branch of CITRIS, CITRIS and The Banatao Institute. Prototyped gesture-based robot control interfaces using Arduino, C++, EMG sensors, and Python. Prototyped voicebased robotic control using Arduino and Android app.

Robotics For Good

Spring 2017

Winner of the UC Berkeley Robotics For Good product design/MVP production competition. The product got picked up for production by bay area edutech company Program Your Future. I was the software lead on this, and wrote the entire user-facing arduino library. This project has now developed into RobotStudio.

Projects

Technical Projects

Apollo (CalHacks 2017) - Gesture controlled robotic interface

Robot Firware and Elec. Lead (goo.gl/4vRB4w)

- Investigated accessible personal robot control interfaces. Used an EMG band in order to control a robot wirelessly through hand gestures [Python. C++]

Adversarial Attacks on CV Systems (https://goo.gl/UXMTqp)

- Wrote a demo/test script as part of my work with ULAB that implements an adversarial attack on a DNN trained for CIFAR-10 image classification using a genetic algorithm based approach [Python, Tensorflow]

Zeno v1 - An Interactive, Open Source, Educational Robotics Platform

Software and Elec. Lead (goo.gl/ZZL8e3)

- Winner of Robotics For Good competition. Wrote the user-facing software library [C++] and designed the electricals and drivebase of robotic platform.

BearMaps- A Maps clone

- Implemented routing functionality using A*, and parsed large amounts of XML mapping data using quadtree search [Java].

Gitlet- A local version control system [Java]

- IImplemented a local version control system, with a subset of the features of git (commit, merge, branch, general file-handling, push, pull, rm)