Sean Farhat

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EDUCATION

UC BERKELEY
B.S. in Electrical Engineering and Computer Science
Expected May 2020 | Berkeley, CA
GPA: 3.74 / 4.0

LINKS

Github:// **sfarhat**
LinkedIn:// **seanfarhat**
Website:// **sfarhat.github.io**

COURSEWORK

UNDERGRADUATE

* = cross-listed as graduate level
Signals and Systems
Embedded Systems*
Algorithms
Artificial Intelligence
Cognitive Neuroscience
Computer Architecture
Computer Security
Data Structures
Machine Learning*
Optimization*
Robotics*
Probability and Random Processes

SKILLS

PROGRAMMING

Proficient
Java • Python • C • HTML • CSS • jQuery

Familiar:
Scheme • SQL • RISC-V • JavaScript • C#

SOFTWARE

ROS • Gazebo • Unity • Unreal • LaTeX • Git

AWARDS

Outstanding GSI Award
Regents' and Chancellor's Scholarship
Dean's List
Tau Beta Pi Engineering Honor Society
Eta Kappa Nu EE/CS Honor Society
3rd place/260, TI Robot Car Competition

EXPERIENCE

UC BERKELEY EECS DEPARTMENT | uGSI
Jun 2018 - Present | Berkeley, CA

- Taught weekly discussion sections, labs and office hours each week to **45+ students** for introductory Computer Architecture course, **CS 61C** , with an average rating of **4.8/5** (above department average)
- Created and managed projects, worksheets, review materials, labs, and exam questions for topics such as number representation, **C** , RISC-V, **instruction/data/thread level parallelism** , **MapReduce** , caches, virtual memory, and CPU design

ACCENTURE LABS Research Intern
Jun 2019 - Aug 2019 | San Francisco, CA

- Utilized **ROS** , **Gazebo** , and **Keras** to architect and create a package for **simulating** and **controlling** an arm to **find** , **inspect** , and **classify** various parts in quality assurance settings
- Investigated benefits of choosing simulation vs. real world for different steps and designed system to allow transferable training data
- **Patent** pending: A Digital Twin for Improved DevOps in Robot Applications (lead inventor)

UC BERKELEY SWARM LAB | Research Assistant
https://github.com/sfarhat/donkey-car-controller

- Investigated methods to enable **autonomous micro-robots** through various methods, with a concentration on **low-power convolutional neural nets**
- Wrote end to end system utilizing **Python** , **OpenCV** , and **Keras** to apply **Canny Edge Detection** , monocular **visual odometry** , and **PID control** to take in sequence of low-resolution images and determine optimal trajectory

PROJECTS

PENDULUM BOT | Python, ROS
https://cpkurotori.github.io/pendulum-bot-website/
Project lead in group of 4 to program a robot to **model, predict, and catch a ball** on a pendulum using only camera input. Wrote code to **simultaneously control and manage communication between 5 nodes** (color, depth, model construction, prediction, arm and gripper activation).

MIND READER | Python
Took publicly available fMRI scanns and created model to **predict what a person was thinking** . Utilized **SVM** classifiers, **Principal Component Analysis** , and **k-means clustering** to optimize predictions.

NINJANIMALS | Unity, C#
On App Store under publisher Alex Fargo
Designed, created, and published on the App Store a 2D infinite side-scroller mobile game, complete with tutorial, one tap controls, local score rankings, shop, and advertisement integration