

Pei Yong Sim

EECS student looking for full-time opportunities in data science or software engineering after graduating in May 2017. (All projects are available at pysim.me/projects; Resume available at pysim.me/resume.pdf)

Berkeley, CA, 94704

(831) 428-3525

py@pysim.me

www.pysim.me

EXPERIENCE

Synocate, Palo Alto — Intern

July 2016 - Oct 2016

Role: Helped build tools to enhance college admissions experience.

Projects

1. Built a web scraper which emulates a web browser and scrapes essay prompts from various sites which are then populated on our essay tracker built using node.js and PostgreSQL.
2. Implemented a variant of OkCupid's matching algorithm to best match counselors with students which greatly improved customer satisfaction.
3. Summer programs recommender system prototype.

SELECTED PROJECTS (* denotes in progress)

AI & ML

1. **AI Pacman** — Trained Pacman with reinforcement learning. Also designed agents that use sensors to locate/track and eat invisible ghosts
2. **Image Processing** — Computes depth info from stereo images. Used Intel SSE intrinsics, OpenMP API to enhance performance
3. **OCR** — Built a neural network that does handwritten digit recognition
4. **Sentiment Analysis** — Simple NLP application (demo: sentiment.pysim.me)

Networking

1. **PyChat*** — A full-stack webapp that supports user management, instant messaging (with WebSocket protocol), AI chatbots and RPN spreadsheet calculator interpreter. Also provide a RESTful API. (demo: pychat.pysim.me)
2. **Routing** — Implemented a learning switch and distance vector routing with split horizon and poisoned reverse for efficient packet forwarding
3. **WAN Optimizer** — A middlebox application that optimizes the amount of transmitted data over a wide-area network

Systems

1. **KeyValue Store** — 2PC protocol for leader-follower servers coordination
2. **PageRank** — Implemented the algorithm using MapReduce programming paradigm in the Spark framework which then ran on Amazon EC2.
3. **PintOS** — An x86 operating system framework that supports kernel threads, user programs execution and file systems.

EDUCATION I

University of California, Berkeley — EECS

Aug 2015 - May 2017, GPA: 3.2

Completed Coursework: CS 61A (SICP), CS 47B (Data Structures), CS 61C (Machine Structures), CS 70 (Discrete Math), CS 162 (Operating System), CS 168 (Networking), CS 170 (Algorithms), CS 188 (Artificial Intelligence), CS 189 (Machine Learning), CS C8 (Data Science), EE 16A, EE 16B

Current Coursework: CS 186 (Databases), CS 164 (Compilers & Programming Languages), EE 126 (Probability & Random Processes)

SKILLS

Programming Languages

1. Proficient: Python, C/C++, Java
2. Familiar: JavaScript, Ruby

Databases:

1. Familiar: MySQL, mongoDB

Frameworks

1. Distributed Computing: Spark
2. Web: Flask, Express, HTML, Bootstrap CSS

Libraries:

1. Data Analytics: Sklearn, Numpy, Matplotlib
2. Testing: unittest
3. Web: jQuery, Scrapy

EXTRACURRICULARS

UC Berkeley CS 61A Lab

Assistant Helped students with labs, homeworks and projects

Cabrillo College Tutor

Provided tutoring assistance to students at the Math Learning Center

LANGUAGES

Chinese, Cantonese, Malay

EDUCATION II

Cabrillo College, Santa Cruz — CS

Aug 2013 - May 2015, GPA: 3.9

Completed transfer work in computer science, physics and math. Built a website called cccPlan using Node.js and mongoDB at Hack UCSC 2015.