Pei Yong Sim

EECS student looking for full-time opportunities in software engineering after **graduating in May 2017**.
All project code, documentation & **demo** available at pysim.me/projects.

Berkeley, CA, 94704
(831) 428-3525
py@pysim.me
www.pysim.me

EXPERIENCES

Synocate, Palo Alto — *Intern*

July 2016 - Sep 2016

Role: Helped build tools to enhance college admissions experience.

Projects
1. **Web scraper and browser emulator** to gather essay prompts to be populated to our site (tech stack include Node.js, Express, Swagger, PostgreSQL).
2. OkCupid's **matching algorithm** to best match counselors with students.
3. Summer programs **recommender system** w/ search & results ranking.

University of California, Berkeley — *Academic Intern*

Jan 2016 - Present

Role: Help students in CS 189 (Machine Learning) and CS 61A (Intro to CS) with homework, projects and labs. Also help hold review sessions.

SELECTED PROJECTS *(* denotes in progress)*

Networking
1. PyChat—A full-stack (MVC) webapp that supports user management, Slack-like instant messaging (WebSocket on TCP/IP) & A.I. ChatBot. Also provides REST API.
2. Routing — Implemented a learning switch (L2) and distance vector (L3) with split horizon and poisoned reversed for packet forwarding.
3. WAN Optimizer— Middlebox application that optimizes the amount of transmitted data over a wide-area network.

Systems/Databases
1. Compiler*— Compiles an object oriented programming language source code into Java bytecode like language and then executes the compiled class files.
2. DBMS*— SQL (relational) database management system that supports CRUD & Join operations, B+ trees indexing to enhance performance, query optimization and concurrency control. Written in Java.
3. Key Value Store— NoSQL distributed storage that uses 2PC protocol for leader & follower servers coordination. It is fault tolerant and supports crash recovery.
4. PintOS— Unix operating system framework that supports kernel threads, user programs execution and file systems w/ buffer cache.

A.I. & Machine Learning
1. Image Processing — Multi-threaded application that computes depth info from stereo images. Used Intel SSE intrinsics and OpenMP API.
2. OCR— Neural network that does handwritten digit recognition w/99% accuracy
3. PySpam— Spam classifier web application by implementing Decision Trees.
4. SIXT33N— Robot car which manuevers according to voice commands.

EDUCATION I

University of California, Berkeley - *B.S. in EECS*

Aug 2015 - May 2017, GPA: 3.2

Coursework *(* denotes in progress)*:

1. Fundamentals: CS 61A (SICP), CS 47B (Data Structures), CS 170 (Algorithms), EE 16A/B (Signals & Systems Design)
2. Systems: CS 61C (Computer Architecture), CS 162 (Operating System), CS 168 (Computer Networking), CS 164* (Compilers), CS 186* (Databases)
3. Data Analytics: CS C8 (Data Science), CS 188 (Artificial Intelligence), CS 189 (Machine Learning), EE 126* (Probability in EECS), Stat 155 (Game Theory)

SKILLS

Programming Languages
1. Proficient: Python, Java, C/C++, SQL
2. Familiar: JavaScript, Node.js

Frameworks
1. Distributed Computing: Spark (w/ MapReduce)
2. Web: Flask, Express, HTML, Bootstrap CSS

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

Other tools:
Git, Maven, Heroku Cloud, AWS, PostgreSQL, mongoDB

EXTRACURRICULARS

Data Science Society at Berkeley
Social Network Analysis on borrowers and lenders on Kiva's microlending platform.

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.