# Mao Li

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## Education

**University of California, San Diego** **Expected June 2020**
*B.S. Computer Science, Minor Economics*
GPA: **3.97 / 4.0**; ranked **Top 2%** of the class; Member of **Tau Beta Pi** Engineering Honor Society
**Provost Honors:** Fall 2016 – Present (successive terms)
**Pembroke College, University of Cambridge** **Summer 2018**
*University of California Education Abroad Summer Program*
Coursework: Cyber Security, Microeconomics Theories, Mathematics – Graph and Number theory

## Experiences

**Software Engineering Intern, SV Summit** **Summer 2019**
- Developed an online learning management system for technical training and job placement following MVC architecture
- Designed database schema, managed platform data in MS SQL and connected to backend server through SQLAlchemy
- Implemented backend data server using Python Flask and built RESTFUL APIs for front end clients
- Built modularized user interface with react & Material UI and handled data flow with Redux State container
- Deployed on AWS EC2 with Nignx and Gunicorn, configured reverse proxy load balancer which improved QPS by 37%

**Undergraduate Researcher, "Market Making via Deep Reinforcement Learning"** **February 2019 - Present**
- Research on competitive market making via deep reinforcement learning under guidance of Prof. Sicun Gao
- Build realistic and data-driven simulation of a limit order book using historical data and sequential Bayesian methods
- Combine function approximation and constraints satisfaction in the design of action, state and reward representations
- Design customized Gym environment for deep reinforcement learning and represent stock features using RNN

**Tutor, UC San Diego Jacob School of Engineering** **Sept 2019 - Present**
- Assist Prof. Julian McAuley in grading CSE158 recommender system homework and help with students' questions
- Perform individual and group tutoring for students and helped them with concepts, practice and assignment
- Organize mini sessions to review essential concepts covered in lectures and prompted active discussions

**Business Development Chair, Triple C (Chinese Computer Community), UCSD** **March 2019 - Present**
- Lead BD team to provide business support and managerial/legal consulting for Triple C's ten quarterly CS/DS projects
- Brainstorm project ideas, develop business plans and prepare pitch presentations for quarterly projects
- Outreach student organizations, professors, incubators and investors to grow Triple C's influence and publicity
- Official Website: http://ucsdtriplec.org/, LinkedIn: https://www.linkedin.com/company/ucsd-chinese-computer-community/

## Projects

**Letsrandom.net, an Online Random Selector for Food and Entertainment** **Fall 2019**
- Developed a minimalist, unopinionated random selector to recommend local restaurants and entertainment
- Built data pipeline to collect restaurants information from Yelp, store and manage it in MySQL server
- Implemented the backend server using Node.js and generated random selections using atmospheric noise
- Designed the user interface using Bootstrap 4 and built frontend logic with Javascript and JQuery

**Furnitrade, a Web App for Students' Used Furniture Trading** **Fall 2018**
- Collaborated in an agile student team to develop a web-based platform for student's used furniture trading
- Developed using Flask framework the server-side user authentication module and furniture information module
- Implemented APIs for client side to interact with MongoDB database and tested them using Postman ADE
- Facilitated the design of user interface using Mockingbot and implemented it with React and Material UI

**Recommender System on Amazon and Yelp's datasets (Python)** **Nov. 2018 - Dec 2018**
- Built category classifier on Amazon and Yelp's dataset (~200,000), with accuracy ranking 2nd out of 355 on Kaggle
- Designed the classifier using Scikit-Learn's linear SVM, extracting features from review text and purchase history
- Developed collaborative filtering algorithm for purchase prediction on Amazon's data, ranking top 12% on Kaggle

## Skills

**Programming Languages:** Java, Python, JavaScript, SQL, HTML/CSS, C++.
**Skills and Framework:** Backend Development with Node.js, Flask, MongoDB and Postman; Frontend Development with Javafx, React, JavaScript and HT ML/CSS; Reinforcement Learning with PyTorch and Gym.