Email: mal131@ucsd.edu **Tel: 619-381-1639**

MAO LI

Education

- **University of California, San Diego** **Expected June, 2020**
  B.S. Computer Science, Minor Economics
  GPA: **3.96 / 4.0**; *ranked **top 5%** of the class*; ***Warren College Provost Honors***
  Coursework: Software Development, Object-Oriented Design, Machine Learning, Data Structures, Algorithm, Calculus, Linear Algebra, Discrete Mathematics, Econometrics.
- **Pembroke College, University of Cambridge** **Summer, 2018**
  UC Education Abroad Summer Program
  Coursework: Cyber Security, Microeconomics Theories, Mathematics – Graph and Number Theory.

Projects

- **Furnitrade, a Web App for Students' Second-Hand Furniture Trading** **Fall, 2018 – Present**
  - Collaborated in Agile student team to develop web platform for second-hand furniture information trading
  - Designed user-side interface with Mockingbot prototyping tool and implemented using React.js and Material UI
  - 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 with Postman
- **Actors' Social Network Analyzer (C++, Python)** **March, 2018**
  - Constructed actor relationships graph with hasp map and adjacency matrix as infrastructure, from given IMDB data set
  - Developed revised BFS, DFS and Dijkstra's algorithm on graph to predict future interactions between actors
  - Implemented k-core degeneration algorithm on graph to determine popularity levels of actors
  - Optimized the analyzer to achieve linear time complexity with efficient memory usage
- **Automatic Text Predictor and Generator (C++, Java)** **February, 2018**
  - Implemented text completion function with ternary search tire in linear time and space complexity
  - Designed revised hash map to store real-world language data associated with probability of usage
  - Implemented Markov's process to auto generate new text based on training language data set
- **Game2048 (Java)** **February, 2017**
  - Developed basic infrastructure and game components using inheritance, 2D array and standard I/O in Java
  - Implemented an event-driven and fully-customizable Graphic User Interface using JavaFx
  - Optimized the game experience by effectively using polymorphic game components and multi-threading

Experiences

- **Research Assistant, "Cross-Border Supply Chains and Natural Disasters: The Role of Search Friction"** **Fall, 2018**
  - Collaborated with UCSD's PhD candidate to numerically analyze natural disasters' impact on global supply-chain
  - Used Python's Pandas, Matplotlib, Scikit-learn libraries to describe natural disaster and supply-chain relationship
  - Developed string processing tool with Python's NLTK to format human-inputted location data into administrative levels
- **Computer Science Mentor, Meta Summit 2017** **August, 2017**
  - Shared Object-Oriented Design, software development, and other CS-related topics with high school participants
  - Helped high school participants develop basic Java programing skills and familiarize with software tools
- **Teaching Assistant, Engineers for Sustainable World Summer Camp, Chengdu, China** **July, 2017**
  - Assisted camp mentors with preparing, setting up and executing workshop sessions on sustainability topics
  - Guided camp students with solar charger building, virtual sustainable city modeling and other hands-on activities

Skills

- **Programming Languages:** Python, Java, C++, HTML/CSS, JavaScript, JSON, C, Bash Script.
- **Skills and Framework:** Backend Development with Flask, MongoDB, SQL and Postman; Frontend Development with React and Material UI; Machine Learning with Scikit-Learn and TensorFlow; Data Analysis with Pandas and Matplotlib; Proficient in Unix/Linux.