

Matthew Tsai

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EDUCATION

BACHELORS IN COMPUTER SCIENCE | University of California, Berkeley

RELEVANT COURSE WORK

Data Structures Discrete Mathematics Probability Theory Computer Security
Algorithms Artificial Intelligence Machine Learning Machine Structures

SKILLS

SOFTWARE

Python • Java • C • MySQL • JavaScript • Assembly • Spark

FRAMEWORKS

Twilio Functions • AWS Lambda • Git • Agile/Scrum

WORK EXPERIENCE

INTERNSHIP - TWILIO | Solutions Engineering

May 2021 - August 2021

- Partnered with Account Executives for discovery sessions to identify product fit for customers initiatives.
- Blueprinted IVR solutions using Twilio APIs for customers: (NYSE: COTY, NASDAQ: LULU).
- Built a custom Interactive Voice Response System using PCAVS Deepfakes for Intern Capstone. The architecture of the app was built with Twilio Studio and Twilio Programmable SMS.

INTERNSHIP - BREW2YOU | Software Development and Design (Start-up Business)

February 2020 - July 2020

- Designed a MVP for a Berkeley STEP VC Conference with Adobe XD demonstrating interactions with partners/clients and created a sample front-end using HTML, CSS, and Javascript.

PROJECTS

PACMAN REINFORCEMENT LEARNING

April 2021 - May 2021

- Implemented value iteration and Q-learning on agents then applied them to Pacman in Python.
- Optimized learning rate, batch size, & loss for predictive neural networks such that the agent achieves win rate at least 80%.

NUMC

November 2020 - December 2020

- Implemented a version of numpy in C that utilizes both instruction-level and data level parallelism. Achieved over 1300x speed up on matrix multiplication by using SIMD and unrolling techniques.

GITLET

April 2020 - May 2020

- Wrote a version control system in Java completely from scratch that mimics the core functionalities of Git: branch, merge, commit, checkout etc.

EXTRACURRICULAR

UC BERKELEY EECS DEPT. | Teaching Assistant, CS Scholar Tutor

January 2020 - May 2021

- Responsible for holding weekly office hours lab sections: Python, C, Assembly and SQL.
- Held weekly tutoring sections for a small class of students from underrepresented backgrounds.

BERKELEY ENGINEERING STUDENT COUNCIL | Finance Committee Officer

September 2020 - January 2021

- Automated more of the Funding Approval System by optimizing the flow of information.
- Collected past years of data to analyze and calculate the optimal funding for each club in order promote inclusion and diversity of students and to eradicate the unhealthy competitiveness that the Berkeley STEM club culture manifested after many years of unrestricted funding.