


MATTHEW LEE

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EDUCATION

University of California, Berkeley

Expected May 2024

BA Computer Science + BA Data Science, GPA 4.0

- **Activities:** Web Development at Berkeley, Extended Reality at Berkeley, Cal Hacks, UC Berkeley IEEE Student Branch, Computer Science Undergraduate Association
- **Relevant coursework:** Structure and Interpretation of Computer Programs, Foundations of Data Science, Designing Information Devices and Systems, Discrete Mathematics, Calculus, Introduction to Business

EXPERIENCE

Web Development at Berkeley

Berkeley, California

Full Stack Developer

Sept. 2021 - Present

- Developing real-time multiplayer trading platform for bid-ask spread quantitative finance education.
- Implementing UI, user room management, and game logic with Next.js, Express, Flask, and MongoDB.

Extended Reality at Berkeley

Berkeley, California

Virtual Reality Software Engineer

Sept. 2021 - Dec. 2021

- Designed an OpenXR-based hand-tracking system for interaction in Oculus Quest 2 virtual environments.
- Created collision capsule structure and functionality for object manipulation using Unity and C++.

Hack+

Fremont, California

Software Engineering Intern

Jun. 2021 - Sept. 2021

- Hack+ supports organizations and events with legal backend and banking services (over \$2M transacted).
- Developed a revamped online portal using React, Node.js, and Firebase to provide organizations with a centralized access point for services, transaction records, invoice management, and member coordination.
- Engineered an automated process for more efficient approval and onboarding of Hack+ applicants.

University of California, Santa Barbara

Santa Barbara, California

Machine Learning Researcher

May 2020 - Aug. 2020

- Architected a convolutional neural network EEG-based authentication system with P300 event-related potential as input by using PyTorch and Jupyter Notebooks; assessed efficacy with Numpy and Matplotlib.
- Examined methods to reduce impact of input noise and environmental factors on system performance.
- Compiled poster, presentation, and manuscript for inclusion into the RMP Program Symposium.

California Institute of Technology

Pasadena, California

Network Theory Researcher

Aug. 2019 - May 2020

- Studied algorithms and theory behind fundamental concepts in network theory under the Hassibi Group.
- Designed and built a website using React and Firebase to collect crowdsourced data on fruit cultivar classification and tested performance of different clustering algorithms using MATLAB.

PROJECTS

- **Unify - React, Node.js, Firebase.** A platform that connects high school students with current college students to prove personalized insight on finances, major curriculums, and holistic university experiences.
- **Book Rank Predictor - Scikit-learn, Pandas.** A random forest model that utilizes the metadata of a book (i.e. title, author, publication date) to forecast whether it reaches the New York Times Best Sellers or not, coupled with a regression model that predicts the rank trajectory of the book across weeks.
- **An[Ti]lles - Java, OpenCV.** Control system for FIRST Robotics Competition robot with vision pipeline for automated target detection, and PID controller guided drive and mechanism operation.

ADDITIONAL INFORMATION

- **Skills:** Python, HTML/CSS/JS, React, Node.js, Firebase, C/C++, Java, Unity, Tensorflow, Google Cloud, Figma
- **Awards:** Regents' and Chancellor's Scholarship, Cal Alumni Association Leadership Award Scholarship, American Invitational Mathematics Exam 4x Qualifier, USA Computing Olympiad Silver
- **Interests:** RnB Music, Tea Drinking, Hiking, Basketball, Biking, Reading, Museums