THOMAS YEOH

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Education

University of California, Berkeley Graduating: 2025

B.S. Electrical Engineering and Computer Science

- Coursework: Data Structures, Algorithms, Computer Architecture, Optimization models, Discrete Mathematics, Probability Theory, Computer Vision, Computer Graphics, Machine Learning, Databases
- Activities & Awards: Cal Leadership Scholarship, Google Developers Club (VP of Strategy)

Experiences

UC Berkeley, Haas School of Business Berkeley, CA

Research Assistant Jan 2024 – Present

- Investigated Generative Adversarial Networks (GANs) to estimate how gig workers select ride-hailing platforms.
- Translated mathematical models into code, optimized data pipeline, and sped up pre-computation by 44%.
- Analyzed and processed 1.18+ million data points to understand team formation dynamics and worker efficiency.
- Actively involved in using HPC cluster computers, creating tutorials, and adding documentation for lab members.

Keysight Technologies Penang, Malaysia

R&D Software Engineer Intern May 2024 – August 2024

- Deployed and developed a text classification app for service orders with React, reducing analysis time by 25%.
- Built an end-to-end data pipeline with REST API and Flask to efficiently process over 120,000 data points daily.
- Utilized ML Libraries (Keras, Sklearn, Seaborn) for advanced data modeling and analysis on large datasets.
- Implemented robust logging for debugging and data reliability.

Projects

Image Denoising with U-Net and Diffusion Models (PyTorch)

- Developed and trained a U-Net for single-step image denoising on noisy datasets.
- Implemented diffusion-based iterative denoising for enhanced noise removal in high-noise images.
- Visualized model performance across training epochs, including varying noise levels for quality analysis.

2D World Exploration Engine (Java)

- Developed a 2D engine to generate pseudo-randomly designed worlds with rooms, hallways, and unique layouts.
- Implemented interactive features, allowing user-controlled movement and interaction with the environment.
- Enabled deterministic behavior and data persistence for consistent user experience across sessions.

Automatic Image Stitching (Python)

- Developed an image stitching system using Harris corner detection and feature matching.
- Implemented 4-point RANSAC to compute homographies, producing panoramas from overlapping images.
- Automated mosaic generation based on Brown et al.'s research paper for accurate image alignment.

College Hub (Kotlin)

- Developed a mobile app using to streamline student communication, and access to resources, and academic tools.
- Led the implementation of core features: user dashboard, professor rating system, and study group coordination.
- Optimized app performance, reducing load times by 20% through efficient data caching and async operations.

Skills

Python, Java, C++, React, Node.js, HTML/CSS, JavaScript, Kotlin, Linux, PyTorch, SQL, R, x86 Assembly