Ethan Lee

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Education

University of California Los Angeles — Los Angeles, CA

Bachelor of Science in Computer Science — *Sep. 2023 – June 2027*

- Relevant Coursework: Data Structures and Algorithms, Intro to Computer Organization, Software Construction, Discrete Mathematics, Linear Algebra and Applications, Machine Learning

Experience

Bruin Plan | *MongoDB, Express, React, Node.js, Passport.js, JavaScript* — April 2025 – May 2025

Project Lead — *Los Angeles, CA*

- Engineered **full-stack app** with Node.js and React to optimize schedules using **188 UCLA course entries**
- Configured **MongoDB database** with IP whitelisting and role-based access, enabling **cloud collaboration**
- Integrated **Google OAuth 2.0** with Passport.js and **RESTful login routes**, securing **500+ user accounts**
- Developed **optimization algorithm** using JavaScript to prioritize class time, instructor ratings, and workload

Automated Pet Feeder Web App | *C++, Firebase, React, JavaScript, Express* — May 2024 – June 2024

Backend and Electronics Team Member — *Los Angeles, CA*

- Developed **REST APIs** to manage **real-time** feeder control and updates between frontend and hardware
- Established **SSL-encrypted Wi-Fi** connection between web app and pet feeder using **Arduino WiFi library**
- Managed **hardware integration** by wiring the Arduino system to servo motors, water pump, and sensors

Projects

Journal Buddy | *Next.js, TypeScript, Supabase, PostgreSQL, OpenAI* — June 2025 – August 2025

- Developed **full-stack journaling platform** using Next.js, TypeScript, and Supabase, supporting **300+ users**
- Designed frontend with **reusable Tailwind** and Recharts components resulting in **40% faster dev cycles**
- Integrated **OpenAI and Pinecone vector search** to process **1,000+ entries**, increasing engagement by **60%**
- Deployed on Vercel with **CI/CD + NextAuth.js**, reducing deployment time by **80%** w/ **99.9% uptime**

Digit Classification Model | *PyTorch, Python, CNNs, Data Augmentation* — Oct. 2024 – Dec. 2024

- Engineered **custom CNN** for digit recognition with **99.9% accuracy** on MNIST dataset using PyTorch
- Visualized training metrics using Matplotlib to improve model performance by **15%** during testing phase
- Created **data augmentation pipeline** using PyTorch to enhance model generalization and reduce overfitting

Published Video Games | *Unity, C#, C++, Git, Github* — Sep. 2023 – March 2024

- **Frogs Go Nuclear:** 2D Platformer developed in Unity
- Led a **team of 5 developers**, assigning tasks and fostering open communication to drive success
- Leveraged C# and Unity to implement robust **user-controlled mechanics** and interactive elements
- Streamlined collaboration with **50+ Git/GitHub commits**, ensuring version control and code quality
- **Marble Madness:** 2D Dungeon crawler developed in C++
- **Custom-level creation/loading system**, discrete collision detection, and sprite-based graphics
- Designed **10 enemy and interactive type elements** using polymorphism to enhance gameplay
- Reduced redundancy to streamline code by **20%** by integrating inheritance-type game architecture

Technical Skills

Languages: C++/C#, TypeScript, JavaScript, Python, HTML/CSS
Frameworks: React, Express, Next.js, Tailwind CSS
Developer Tools: Git, Docker, Google Cloud Platform, VS Code, Unity, Unreal Engine, Linux, Vercel, Node.js, AWS
Libraries: PyTorch, TensorFlow, Matplotlib, pandas, Selenium