Katie Li

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EDUCATION

University of Illinois Urbana-Champaign **Expected Graduation: May 2027**

Bachelor of Science in Computer Science GPA: 4.00/4.00

- 2025 Dean's List, 2024-2025 Rothmuller Award, Tau Beta Pi Engineering Honors Society
- Relevant Coursework: Algorithms and Models of Computation, Data Structures, Computer Architecture, Probability & Stats for Computer Science, Software Design Lab

Monta Vista High School, Cupertino, CA **August 2020 - June 2024**

- 2024 National Merit Finalist GPA: 4.00/4.00

TECHNICAL SKILLS

- Programming Languages: C++, Python, Java, JavaScript, SQL, C#
- Frameworks & Technologies: React, Flask, TensorFlow, PyTorch, Numpy, HTML/CSS, PostgreSQL
- Certifications: Machine Learning Specialization (DeepLearning.AI)

PROJECTS

Stride | Mobile Fitness App **July 2025 - Present**

- Designed intuitive UI mockups and flows in Figma to guide app development and enhance user experience
- Implemented on-device AI for real-time running form analysis using TensorFlow.js and the MoveNet model
- Managed a PostgreSQL database to store & retrieve user data, running performance metrics, training progress
- Developed a secure user authentication flow (login/signup) to manage user access and ensure data privacy
- Engineered a scalable full-stack solution, integrating database with frontend to manage and persist user data

Bookrates | Book Recommendation Website **May 2025 – July 2025**

- Engineered a book recommendation engine using unsupervised ML and content-based filtering
- Deployed a collaborative filtering model on a dataset of 1M+ user interactions and 70k books
- Designed and implemented a user-item interaction matrix to model user behavior based on their past reads
- Implemented a full-stack web app (bookrates.vercel.app) with a React frontend and a Python Flask backend

3D Unity Video Game **May 2023 – Aug 2023**

- Developed a 3D, psychological-horror themed escape room for UC Santa Cruz's COSMOS summer program
- Utilized Unity and C# to build interactive gameplay mechanics and immersive 3D environments
- Implemented a custom graphics pipeline with post-processing and optimized assets for smoother performance

RESEARCH & LEADERSHIP

Multimodal AI Research Project in Educational Technology **May 2025 - Present**

- Developed Ellysia, a multi-modal AI educational tool that evaluates and ranks STEM instructional videos
- Applied a research-based 12 item checklist grounded in cognitive and learning sciences to the grading system
- Wrote batch processing scripts to automate evaluation with VLMs and LLMs, generating structured scores
- Optimized batch inference with GPU parallelization, reducing evaluation time per video
- Experimented on CC-licensed YouTube videos, comparing alignment between AI and human judgment

USA Computing Olympiad | Director of Competitive Programming Club **Sept 2022 - June 2024**

- Programmed in C++ for competitive programming contests, achieved USACO Gold Division status
- Gave weekly presentations to club members regarding competitive programming topics and DSA

EXPERIENCE

TheCoderSchool | Python Code Coach **April 2023 – June 2024**

- Mentored middle and high school students in weekly Python lessons, introducing core programming concepts
- Guided students through game development projects, implementing interactive and playable experiences

Robotics For All | Web Development Intern **Jan 2022 – July 2022**

- Collaborated with a team of interns to program Robotics For All's main website using React, JavaScript, CSS
- Edited and improved the website's design to make it more visually appealing and accessible for users