

# Katie Li

☎ 650-285-8450 ✉ [katieli167@gmail.com](mailto:katieli167@gmail.com) 🔗 [linkedin.com/in/katieli167](https://www.linkedin.com/in/katieli167) 👤 [katie-li.vercel.app](https://katie-li.vercel.app)

## Education

### University of Illinois Urbana-Champaign

Expected Graduation: May 2027

Bachelor of Science in Computer Science (GPA: 4.0/4.0)

Champaign, IL

- Research Assistant @ Forward Data Lab | Dean's List 2025 | Rothmuller Award | Tau Beta Pi Honors Society
- Relevant Coursework: Algorithms and Models of Computation, Data Structures (C++), Computer Architecture, Probability & Statistics in CS (Python), Software Design Lab

## Technical Skills

**Languages:** C++, Python, Java, JavaScript, TypeScript, SQL, C#

**Frameworks/Technologies:** React, Flask, TensorFlow, PyTorch, NumPy, HTML/CSS, PostgreSQL, XCode

**Certifications:** Machine Learning Specialization (DeepLearning.AI, Stanford)

## Projects

**Stride** | TypeScript, React Native, TensorFlow, PostgreSQL, XCode

- Developing a mobile fitness app with **React Native + TypeScript**, building **Figma mockups** for UI design.
- Deploying on-device AI using **TensorFlow.js + MoveNet** to provide instant running form analysis.
- Optimizing **PostgreSQL queries** and backend API calls, reducing data retrieval latency and improving real-time workout tracking for runners.
- Developing a secure **login/signup authentication** system with role-based access, ensuring data privacy.

**Bookrates** | Flask, Python, NumPy, React, JavaScript, CSS

- Engineered a book recommendation engine trained on a **dataset of 1M+ user interactions** and **72k novels**.
- Achieved **200% faster** collaborative filtering performance by implementing Parquet caching.
- Developed a **Flask backend API** to serve hybrid recommendation techniques, combining **content filtering algorithms** with a **collaborative filtering model**, and enabling large-scale recommendations across Goodreads users.

**Shattered** | Unity, C#

- Developed a 3D horror-themed escape room video game as part of UC Santa Cruz's COSMOS program.
- Optimized rendering pipeline and post-processing tuning, **improving average FPS by 30%**.

## Research

**LLM Instructional Video Understanding** | Python, GPT-4o, Whisper, V-Log

- Developed a multi-modal AI pipeline that evaluates and ranks STEM instructional videos.
- Wrote **batch processing scripts** to automate evaluation with **VLMs & LLMs**, generating ranked scores.
- Packaged code and documentation into a reproducible pipeline for **streamlined team collaboration**.
- Scaled our system to handle **500+** long-form instructional videos (**400+ hours of content**), enabling large-batch experimentation while achieving **80% commonality** with human evaluators.

## Experience & Leadership

### TheCoderSchool

Apr 2023 – Jun 2024

Python Coding Instructor

Cupertino, CA

- Mentored middle and high school students in **50+ weekly Python lessons**, introducing core programming concepts.
- Guided students through game development projects, implementing interactive and playable experiences.

### Robotics For All

Jan 2022 – Jul 2022

Web Development Intern

Cupertino, CA

- Contributed to programming *Robotics For All's* main website using **React, JavaScript, and CSS**.
- Revamped the donation page with **modern designs** and embedded Google Forms for improved donation workflow.
- Reduced page load latency through render optimizations and improved **CSS styling** for sharper visuals.

### USACO Competitive Programming Club

Aug 2021 – Jun 2024

Director (Monta Vista HS) | Gold Tier Competitor

Cupertino, CA

- Achieved **USACO Gold Division status** by utilizing **C++** in competitive programming contests.
- Directed a **30+ member** programming club and **led 80+ presentations** on data structures, algorithms, and competitive programming topics, enhancing members' technical and problem-solving skills.