

# Ryan King

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## EDUCATION

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### University of California, Santa Cruz

*Master of Science in Natural Language Processing*

Santa Cruz, CA

Sep. 2025 – Present

### University of California, Santa Cruz

*Bachelor of Science in Computer Engineering, Minor in Computer Science*

Santa Cruz, CA

Sep. 2021 – Jun. 2025

### La Cañada High School

*GPA: 4.2*

La Cañada Flintridge, CA

Aug. 2017 – June 2021

## EXPERIENCE

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### Group Tutor

*UC Santa Cruz, Computer Science and Engineering Department*

Sep. 2023 – Jun. 2025

*Santa Cruz, CA*

- Tutor for CSE121 (Embedded System Design), CSE13S (Comp Sys and C Program), CSE40 (Machine Learning Basics: Data Analysis and Empirical Methods), and CSE20 (Beginning Programming in Python)
- Assists TAs in discussion sections and held office hours
- Helped 500 students up to 20 hours per week (between all 3 classes)

### Reader/Grader

*UC Santa Cruz, Computer Science and Engineering Department*

Sep. 2022 – Dec. 2023

*Santa Cruz, CA*

- Course grader for CSE 20 (Beginning Programming in Python)
- Graded about 100 Python programming assignments per week

### Small Group Instructor

*iD Tech Camps*

May 2022 – Jan. 2023

*Remote (Los Angeles)*

- I taught week-long coding classes to students between 1st and 12th grade with class sizes of up to 12 students.
- I taught Python, Java, HTML and JavaScript, C++, C#, AI, and game design tools
- Game design tools were RPG Maker, Unity, Roblox, and more basic games using C++, PyGame, and HTML/JS

## PROJECTS

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### EdgeLake Decentralized Video Streaming | *WebRTC/aiortc, Python, React, Docker*

Jan. 2024 – Jun. 2025

- In a team of 6, we developed from scratch a decentralized multi-stream security camera monitoring service.
- The stream monitoring software uses EdgeLake, an open-source project within the LF Edge umbrella of the Linux Foundation, created by AnyLog Inc. The code we wrote is a part of AnyLog, the enterprise version of EdgeLake.
- WebRTC is used to stream potentially dozens of live feeds to a single page with a customizable grid layout.
- Features include rewinding, recording, AI object detection, and split processing of streams between nodes.

### Datum - AI-powered knowledge base | *Next.js, Figma, Firebase, GenKit, Ollama*

Sep. 2024 – Dec. 2024

- In a team of 6, I helped develop an AI knowledge base website for companies with many documents.
- Fully functioning website that allows an admin of a company to create new users and assign them departments.
- Users can upload documents to a department database and access department files they are privileged to see.
- Local Llama3.2 model is used instead of OpenAI, so important information is protected, and not used for training
- The chat tool can summarize a document or have a conversation based on documents a user can access.

### Hand-Trackd Mouse Cursor

*C#, Python, Android SDK, Android NDK, Unity, Oculus XR, Oculus VR Toolkit, OpenJDK, PyAutoGUI*

Feb. 2021 – May 2021

- App for Oculus Quest and PC that uses hand tracking to control a computer mouse without wearing the headset.
- The Quest mounts behind a chair and relays hand position and gestures to a local Python script on PC via ADB.
- In addition to clicking, the app on the Quest supports 4 custom gestures including opening an on-screen keyboard.

## TECHNICAL SKILLS

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**Languages:** Python, Java, C/C++, JavaScript, HTML/CSS, WebGL, MySQL, C#, MatLab, Verilog, RISC-V

**Frameworks:** Next.js, Vue, React, Node.js, Flask, FastAPI, Jekyll, Arduino, Espressif IoT Development Framework

**Developer Tools:** Git, Docker, Jest, Firebase, Google APIs, Android SDK & NDK, Unity, OVR Toolkit, VS Code, Visual Studio, PyCharm

**Libraries:** WebRTC, OpenCV, PyTorch, Scikit-learn, pandas, PyGame, Selenium, SciPy, discord.py, Three.js

**Other Skills/Experience:** IoT Development, Linux, FPGA and Logic Design, Robotics, Small System/Network Admin