

LOUIE CAI

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I am an undergraduate student at UC San Diego studying Data Science with a strong foundation and interest in machine learning, software development, and data analysis, enhanced by practical experience through internship and projects.

EDUCATION

University of California, San Diego, Data Science B.S.

Sept 2020 – Dec 2024

- **GPA:** 3.7
- **Minor:** Computer Engineering
- **Relevant Coursework:** Machine Learning, Deep Learning, NLP, Data Analysis, Computer Organization and Systems Programming, Data Structures & Object-Oriented Design, Differential Equations, Linear Algebra, Probability and Statistics, Discrete Mathematics, Components and Design Techniques for Digital Systems

EXPERIENCE

Amazon

Jun – Sept 2024

Software Development Engineer Intern (In Progress)

- Developed a full-stack portal application with React front-end and AWS serverless back-end, automating the creation and tracking of internal experiments, reducing deployment time from 2-3 days to minutes.
- Enabled users to create new experiments and access past data through a unified portal using AWS Lambda, Step Functions, and DynamoDB.
- Managed infrastructure with AWS CDK and CloudFormation, ensuring seamless deployment and efficient monitoring.

UC San Diego

Sept 2023 – June 2024

CSE Tutor (CSE 8A, CSE 140L)

- Held office hours and helped students with their questions
- Automated the calculation of class grades with Python scripts
- Performed TA duties: designing and creating programming assignments and exams

Amazon

Jun – Sept 2023

Software Development Engineer Intern

- Utilized React and TypeScript to streamline backend database onboarding with a front-end internal tool.
- Collaborated in an Agile team to ensure responsive and user-friendly interfaces.
- Reduced the onboarding process from 2-3 days to several hours through streamlining with this tool

PROJECTS

Minecraft Mod Development ([GitHub](#))

Jun – Dec 2020

- Achieved over **2.9 million** downloads on [CurseForge](#) for the Minecraft plugin developed.
- Engineered a plugin to enhance the player experience in Minecraft by introducing interactive in-game items.

ACTIVITIES

IEEE F1TENTH IV2023 Championship - Anchorage ([Website](#))

Jun 2023

- Constructed two autonomous 1/10 scale RC cars, each equipped with LiDAR sensors and cameras, enabling precise navigation on a racetrack.
- Led the development of advanced navigation algorithms using ROS2 and DonkeyCar.
- Represented UC San Diego and secured fourth place in the championship.

SKILLS

- **Programming Languages:** Python, R, SQL, HTML, CSS, TypeScript, Java, System Verilog, C, C++, C#, Bash
- **Web Development:** React, Vite, React Hook Form, React Router DOM, HTML, CSS, FastAPI, Spring Boot
- **Machine Learning/Big Data:** Deep Learning, pandas, NumPy, matplotlib, scikit-learn, PyTorch, Selenium
- **Cloud/DevOps:** AWS Lambda, AWS Step Functions, AWS DynamoDB, AWS CDK, AWS CloudFormation, Docker
- **Frameworks/Tools:** JavaFX, Unity, Linux, Gradle, Valgrind, Vim, Git, Jupyter, Verilator, Blender