# Vincent Liu

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## Experience

**UXLy** *Jan - May, 2025*
*Software Engineer Intern* *San Francisco Bay Area, Remote*

- Implement chatbot guardrails to prevent unsafe, off-topic, or inappropriate responses, ensuring compliance with guidelines while enhancing user satisfaction and engagement.
- Collaborate with a team of three engineers and six interns in a fast-paced Agile environment

**UC Santa Cruz, Baskin School of Engineering** *Jan - Mar, 2025*
*Reader* *Santa Cruz, CA*

- Evaluate and provide feedback on assignments for 300+ students to determine students understanding of Agile workflow and core software engineering principles.

## Projects

**Cognoso:** *AI Driven Flashcard Generator*

- Flashcard management website with PDF extraction, auto-generation, and chatbot that answers questions from uploaded study material.
- Lead UI/UX development, end-to-end API integration, and database implementation.

**UXLy Multi-tool Customer Support Chatbot:**

- Multi-Tool AI Chatbot that maintains dialogue context, provides product recommendations, and manages orders.
- Development and integration of eCommerce platform with AI chatbot features, API integrations, user authentication, and chatbot guardrails.

**SecureAI:** *GitHub Repository Vulnerability Scanner*

- Full-stack tool that scans GitHub repositories for security vulnerabilities and malicious files using Gemini and GPT models, enabling users to visualize vulnerabilities by severity with AI-generated explanations and recommended fixes.
- Implement API calls, build backend components including an efficient GitHub file-fetching algorithm that filters files and prevents memory bloat, and perform LLM prompting for AI-generated vulnerability analysis.

**NoteSheet Editor:** *Exam NoteSheet Generator*

- Full stack tool that generates notesheets for students, using a backend algorithm inspired by the 2D knapsack problem to optimize whitespace and layout efficiency for PDF generation.
- Lead frontend development, building UI with key components such as a rich text editor supporting bullet points, numbered lists, font styling; develop backend components including an efficient GitHub file-fetching algorithm that filters files and prevents memory bloat while sending data to LLM models.

**Handwritten-Digit-Recognition:**

- Design and implement a basic machine learning model to classify handwritten digits from the MNIST dataset.

## Relevant Coursework:

| Programming Languages & Tools | Software & Web Development | Theory / Foundations |
|---|---|---|
| C / C++ Programming | Full Stack Web Development I | Data Structures and Algorithms |
| Assembly Language and Lab | Software Design Project I + II + III | Introduction to Algorithm Analysis |
| Abstract Python | Software Design Project IV (Accel.) | Cryptography |
| Introduction to Computer Graphics | Computer Systems Design | Computer Architecture |
| | | Computational Models |

## Education

**University of California, Santa Cruz** ***2021 - 2025***
*Bachelor of Science - B.S. Computer Science*

## Skills

- **Programming Languages:** Python, C, C++, JavaScript (JSX), TypeScript (TSX), Assembly, SQL
- **Frameworks & Tools:** React, Node.js, Express.js, Flask, WebGL, Docker, Figma, FastAPI, PyTorch, ReportLab
- **Software Principles:** Agile & Scrum
- **Web & DB Technologies:** HTML5, REST APIs, PostgreSQL
- **AI & ML Tools:** ChatGPT, Gemini, DeepSeek; Leverage large language models (LLMs) for specific use cases

## Honors, Awards, and Certificates

- **Practical Introduction to Quantum-Safe Cryptography** — Issued by IBM, Feb 2025
- **Information Systems Design and Management** — Issued by Information Technology Academy, Jun 2021
- **State Seal of Biliteracy (Japanese)** — Issued by State of California, Jun 2021