Tat Chung Chan

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Education

University of California, Berkeley – BA in Computer Science and Applied Mathematics   Exp. Dec 2025

Relevant coursework: CS 61A: Structure and Interpretation of Computer Programs , CS 61B: Data Structures, CS 61C: Great Ideas in Computer Architecture, Data 8: The Foundations of Data Science, Data 100: Principles and Techniques of Data Science

Experience

Software Engineer Intern, Ocean City Trading Co. – Remote   Jun 2024 – Present
- Reduced invoice editing and search time by 95% by developing a full-stack web application to replace manual order books.
- Utilized React and Material UI for frontend and Flask for backend, followed the Model-View-Controller design pattern.
- Implemented a relational database system with MySQL and built RESTful API routes to efficiently process data.
- Deployed on AWS with Linux environment, setting up IAM for secure user authentication and order data backup.

Software Engineer Intern, Experia Tech Limited – Remote   Jun 2024 – Sep 2024
- Completed load testing projects with JMeter 3 weeks ahead of schedule, ensuring system reliability and performance.
- Captured and analyzed HTTP requests with Postman for the Architectural department's report generation system.
- Facilitated direct communication with clients to understand and meet business needs regarding deliverable features.
- Avoided collisions with automated testing, increasing overall testing efficiency with 100 concurrent testing users.

Software Engineer Intern, University of Texas, Rio Grande Valley – Edinburg, TX   Jun 2023 – Aug 2023
- Developed and implemented mathematical models simulating protein population dynamics related to neurodegenerative diseases using Python libraries, including NumPy and Matplotlib. Presented research findings [1] at the JMM 2024.

Software Engineer Intern, nCino – Wilmington, NC   May 2022 – Aug 2022
- Enhanced stability, and maintainability of a Fintech banking platform used by over 1,850 global financial institutions.
- Phased out outdated Angular libraries by building custom front-end components following the newest Angular standard.
- Contributed to production codebase improvements using Agile methodologies, ensuring timely and high-quality releases.

Projects

Teamcook (Hackathon - CalHacks 11.0) | React, MaterialUI, Figma, Flask, Python, SQLite, Toast API   Link
- Led the system design following Model-View-Controller (MVC) pattern, ensuring a scalable architecture.
- Developed real-time inventory management features, including restock and expiration alert, to optimize material usage.
- Designed an intuitive user interface with drop-and-drop recipe builder, integrated backend REST API, and SQLite database.
- Implemented team collaboration functionalities with user roles to improve kitchen workflow and communication.
- Primary contributor with the highest number of commits and successfully delivered the MVP within 48 hours in CalHacks

Playlist Builder with Large Language Model | React, Python, Flask, Panda, MySQL
- Developed an AI-driven playlist builder: Enabled users to create custom Spotify playlist by interacting with AI chatbot.
- Scraped and cleaned 450 award-winning songs data on wikipedia with BeautifulSoup and stored the data in SQL database.
- Utilized React js as front-end and Python's Flask as backend, handling users' request followed REST API in JSON format.

Youtube Clone | Next.js, Python, Google Cloud Platform   Link
- Developed a simplified YouTube clone with video upload, transcoding, and viewing functionalities using GCP.
- Implemented Google Cloud Storage for video hosting, Cloud Pub/Sub for event-driven processing, and Firebase Auth.
- Built a Next.js web client with JavaScript and TypeScript hosted on Cloud Run, with video metadata stored in Firestore.
- Used ffmpeg for video transcoding to optimize cloud storage and Cloud Run for scalable processing of video uploads.

Real-time Weather Forecast | React.js, Node.js, JavaScript, Vercel   Link
- Created a search feature displaying real-time weather information such as temperature, humidity, wind speed for any city.
- Utilized APIs to fetch real-time weather data and ensured user interaction with options for Fahrenheit/Celsius conversion.

Publication

1.   Miller EM, Chan TCD, Montes-Matamoros C, Sharif O, Pujo-Menjouet L, Lindstrom MR. Oscillations in Neuronal Activity: A Neuron-Centered Spatiotemporal Model of the Unfolded Protein Response in Prion Diseases. Bull Math Biol. 2024 Jun 5

Skills

Languages: Python, Java, C++, JavaScript, TypeScript **Frameworks:** Angular, React, Salesforce Lightning, Django, Flask, Node.js
Database: PostgreSQL, MySQL, SQLite, MongoDB **Tools:** Git, GitHub, Microsoft Office, LaTeX, AWS, GCP, NumPy, MatPlotlib