Henry Chen

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Education

Simon Fraser University — Burnaby, BC
Bachelor of Science in Computer Science — *September 2020 – December 2025*

Experience

Undergraduate Research Assistant — August 2024 – Present
Simon Fraser University — *Burnaby, BC*

- Transformed the Data Levers platform from a data control tool to an informative hub for LLMs, providing users with essential insights on LLM technical capabilities, data dependencies, and organizational policies.
- Collaborated with a professor and potential users to identify critical LLM insights from 20+ research papers, ensuring the platform delivers relevant information to users.
- Developed a Django-PostgreSQL backend to store and provide quick access to key data on 12 different LLMs, detailing their technical specifications and usage policies to potential users.
- Initiated and led 10+ technical meetings with frontend developers to discuss integration of backend systems with the frontend for the Data Levers project.
- Resolved API compatibility issues, aligning frontend and backend data formats and endpoints to streamline data exchange and improve system functionality.

Projects

Rankr | *TypeScript, Docker, React, Socket.io, Redis-JSON, Heroku* | July 2024

- Built a full-stack polling platform using TypeScript, Docker, React, and Redis for real-time updates via Socket.io.
- Deployed the system using Heroku, leveraging Redis-JSON for high-speed data storage and retrieval.
- Built a responsive and user-friendly front-end using React, Vite, and Tailwind CSS.
- Implemented a ranking feature that lets users nominate and rank their top choices, with results automatically calculated and displayed in real-time.

Refactoring NBA Player Database | *C++, Python, SQLiteDB, Google Unit Testing* | June 2024

- Refactored 3,000+ lines of C++ code, removing unused functions and updating key features to align with modern C++ standards, improving code maintainability and readability.
- Integrated SQLiteDB to save and retain NBA player data across sessions, ensuring that database updates are preserved even when the application is closed.
- Achieved 100% test coverage for 20+ functions with Google Unit Testing, ensuring reliability and reducing errors.

Netflix Recommendation System | *Python, Flask, JavaScript, TMDb API, Pandas* | April 2024

- Engineered a collaborative filtering system using Python and Pandas, preprocessing 6 CSV files (each with 5,000+ rows of data) to improve recommendation accuracy by 15%.
- Built a responsive Netflix recommendation website using HTML, CSS, JavaScript, and Flask.
- Integrated TMDb API for detailed movie recommendations, including ratings, genres, and cast information.

Image Classifier | *TensorFlow, PyTorch, Python* | May 2023

- Designed a CNN for image classification on CIFAR-100, achieving 95% accuracy with TensorFlow and PyTorch.
- Ranked 13th out of 120 in a competitive Kaggle challenge in a graduate-level computer vision course.
- Resolved overfitting by applying regularization techniques, reducing training time by 20%.

Technical Skills

Languages: Python, Java, C/C++, SQL, JavaScript, HTML/CSS, R
Databases: PostgreSQL, SQLite, Redis-JSON
Frameworks & Libraries: Django, React, Flask, FastAPI, Node.js, NestJS, Vue.js, Pandas, NumPy, TensorFlow, PyTorch, Matplotlib, Tailwind CSS
Tools & Platforms: Docker, Git, TravisCI, Hadoop, PySpark, Google Cloud Platform (GCP), Heroku, VS Code, Linux