David Hua

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Technical Skills

- **Programming Languages:** Python (Pandas, Scikit-learn, TensorFlow, PyTorch, NumPy), Java (JavaFX), C, C++, JavaScript/TypeScript, SQL, R
- **Testing:** JUnit, unittest, pytest, SuperTest, chai
- **Database:** MySQL, Oracle, PostgreSQL
- **Web Development:** RESTful services, Node.js, Express, React, HTML, CSS, JavaScript/TypeScript
- **Tools:** Docker, Git, Redis, Kubernotes, GitHub, Basic Linux Environments, CI/CD Pipelines
- **UI/UX Design:** Prototyping (Figma), Interview/Observation/Survey Design, Thematic Analysis, Usability Testing, Heuristic Evaluation
- **Machine Learning & AI:** Classical ML models (KNN, Ridge, Random Forest, ensemble methods, etc), Recommendation System, Time Series, Model Evaluation & Deployment

Technical Experience

QA Intern, GHz Technology Ltd., Shanghai — May – June 2025

- Supported UI design iteration in early stage of internship by adapting layouts based on evolving client requirements using **Figma**.
- Conducted independent end-to-end testing of a hospital mobile application utilizing **Agile** methodology.
- Designed and maintained 100+ structured test cases; identified 21 bugs and 4 usability issues, including 4 missed by the internal QA engineer.
- Collaborated with QA Engineers and developers to triage, report, and verify fixes using internal tracking tools.

Undergraduate Research Assistant, CUHK(SZ), Shenzhen — January – July 2024

- Developed and implemented a web crawler to automatically retrieve ESG reports from corporate websites, enhancing data acquisition efficiency.
- Converted PDF documents into text, increasing data accuracy and reliability.
- Employed OpenAI's api to extract critical information from text, streamlining the data processing workflow.
- Created well-designed prompts, significantly reducing the incidence of hallucinated or inaccurate data by 4%, bolstering the integrity of research outcomes.

Projects

Identifier System to Enhance ASCII Art Recognition in LLMs — View on GitHub

- Designed a lightweight content-moderation tool integrating LLM and VLM models to detect offensive ASCII art.
- Improved recognition accuracy from 12% to 81% and reduced hallucination from 88% to 14% through image-based rerouting.
- Implemented reproducible experiments and statistical validation (t-test, bootstrap) in Python.
- Tools Used: Python, OpenRouter

UBC Course Visual Planner — View on GitHub

- Developed a course-visualizing and planning tool utilizing **Test-Driven Development**.
- Ensured accessibility by deploying the tool across multiple platforms, including a dedicated website and a PC application.
- Tools Used: React, TypeScript, Express, HTML/CSS, Figma, Postman

UBC Minecraft Player Engagement Analysis — View on GitHub

- Analyzed player behavior on a UBC-hosted Minecraft server using player and session data to identify which

types of players contribute the most data, aiding targeted recruitment for future research.

- Tools Used: Python (NumPy, Pandas, Matplotlib, Seaborn, SciPy)

Other Experience

Undergraduate Teaching Assistant, University of British Columbia, Vancouver — January – April 2026

- Led weekly lab sessions with two other TAs, breaking down complex programming concepts and debugging code collaboratively in lab sessions.
- Provided scalable technical support through Piazza and office hours, triaging student questions and creating reusable explanations for common challenges.
- Coordinated with teaching team to standardize rubrics and assessment workflows, ensuring consistent evaluation across multiple lab sections.

Finance Officer, CUHK(SZ) IEEE Student Branch, Shenzhen — August 2023 – July 2024

- Designed and implemented a financial tracking system for a 200+ member organization, streamlining reimbursement workflows and ensuring policy compliance.
- Led cross-departmental initiative to automate IEEE membership fee reimbursements, coordinating between student branch and School of Science and Engineering to increase membership participation.

Education

University of British Columbia, Vancouver, B.Sc in Computer Science — August 2024 – Present

- GPA: 4.33/4.33 (91.5/100)
- Honors: Faculty of Science International Student Scholarship, UBC Dean's Scholar

Chinese University of Hong Kong, Shenzhen, B.Eng in Computer Engineering — June 2023 – August 2024

- GPA: 3.7/4.0