

# David Hua

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## Technical Skills

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- **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, Kubernetes, 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

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**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

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**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

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**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

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**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