

Zhenyao (Gary) Dou (He/Him)

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Research interest

Human–computer interaction and artificial intelligence for technology-enhanced learning. Design and evaluation of digital systems that provide scalable support and feedback in higher education. Use of data-driven methods to improve learning access, student engagement, and teaching efficiency. Practical applications of interactive and AI-supported systems to address real challenges in large and diverse learning environments.

Education

The University of Sydney, Sydney, Australia | **Bachelor of Science**, Major in Data Science; Minor in History
Feb 2020 – Jul 2023

Monash University, Melbourne, Australia | **Master of Information Technology**, Research Stream
Jul 2023 – July 2025 | WAM: 80.2 (High Distinction)

Research experience

Graduate Research Student

2024–2025

Action Lab, Monash University

- Exploring Help-Seeking in Large Computer Science Units under the supervision of Dr Ling Wu
- Conducted semi-structured interviews with students, applying HCI qualitative research methods, including interview design, thematic analysis with NVivo.
- Proposed a three-layer support framework, following human-centered design principles.
- Recognized by examiners as a valuable, practically relevant study with a data-driven approach.
- Developed skills in research design, ethics-approved recruitment, literature review, and user-centered evaluation methods.

Skills

Research Methods: Qualitative research, Semi-structured interviews, Thematic analysis (NVivo)

Programming & Data: Python, R, SQL, MySQL, PostgreSQL, Java, Kotlin

Software Development: Vue.js, HTML, CSS, JavaScript, Firebase, AWS, Node.js

Data Visualisation & Tools: Tableau, Microsoft Office, Git/GitHub/GitLab

GIS Software: QGIS, ArcGIS

Project experience

“ElderHub” Seniors’ community support web application | Individual Project

2024

Full-Stack Developer | **Vue 3, Firebase, Node.js, Mapbox, Cloudflare**

Live Link: <https://elderhub.pages.dev/>

- Designed and developed a senior-friendly web platform supporting event browsing, posting, donations, and user account management.
- Built a dynamic frontend with Vue 3 and PrimeVue, integrating role-based access via Vue Router.
- Used Mapbox for interactive location selection and event visualization.
- Developed backend using Firebase Cloud Functions (Node.js), including: Bulk email delivery via SendGrid, Weather data via OpenWeatherMap, AI chatbot using OpenAI ChatGPT API
- Visualized real-time donations and user data via interactive charts (Chart.js) and tables.
- Deployed frontend via Cloudflare Pages and secured backend using Firebase Hosting, Firestore Rules, and Authentication.