

# Henry Chen

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## Summary

I am a software developer with a strong interest in embracing new technologies and building practical solutions. I enjoy creating efficient systems, using automation to simplify work, and applying clean, maintainable code to make life easier for both myself and others.

I work well in collaborative environments and value clear communication. I am comfortable contributing in diverse teams and can collaborate effectively with people from different backgrounds to achieve shared goals.

## Education

University of Western Australia, Master of Information Technology	Feb 2023 – Dec 2024
• Coursework: IoT, Web Development, Cloud Computing, High Performance Computing, etc.	
University of Sydney, Bachelor of Computing - Computer Science	Feb 2020 – Dec 2022
• Coursework: Systems Programming, Agile Software Development, Data Struct. & Algorithms, etc.	
Shanghai Jiao Tong University, Summer School Program	Jun 2022 – Jul 2022
• Coursework: Data Processing, Computer Management	

## Work Experience

Software Engineer, Inovit Inc. – Remote, Australia	Jun 2025 – Present
• Migrated the legacy Dealer Portal from .NET Web Forms to a modern stack using React, TypeScript, and Vite, improving frontend load speed by 40% and enabling a responsive, user-friendly interface.	
• Designed and implemented a secure API Gateway with AWS Lambda, adding rate limiting and request validation to protect backend services.	
• Developed backend services with Django/Python and integrated with SQL Server 2016, modernizing ERP data access for users, orders, and inventory modules.	
• Built a CI/CD pipeline with GitHub Actions, Git, Docker, and Nginx, reducing manual deployment time by 90% and ensuring consistent, automated releases.	
• Practiced Agile Scrum with GitHub Projects, leading sprint planning, backlog refinement, and iterative delivery across the IT team.	
Senior Math Tutor, HD Education – Sydney, Australia	Jul 2019 – Jan 2023
• Designed and delivered customized math curricula, incorporating creative teaching strategies to boost engagement.	
• Built strong student relationships through clear communication and a supportive learning environment.	
• Adapted lesson plans to individual progress, improving comprehension, confidence, and long-term retention.	

## Internship

IT and Data Intern, Path of Hope Foundation – Perth, Australia	Jul 2024 – Oct 2024
• Led ETL, data cleaning, and visualization for the "HOPE Report" supporting domestic violence prevention efforts.	
• Migrated the official website to a scalable, secure platform—improving UX and cutting annual costs by several thousand dollars.	
• Developed data governance and backup protocols in collaboration with senior staff, improving data reliability and team efficiency.	

## Extracurricular

National Institute of Technology – Professional Year Program
Mar 2025 – Present (Ongoing)

## Projects

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IoT - Smart Vision Hat	Aug 2023
An IoT-based wearable device designed to assist visually impaired individuals. Built with Raspberry Pi and YOLOv8 object detection model.	
Tech Stacks: Flask, Python, BootStrap, Firebase, YOLOv8, NoSQL, GitHub Actions	
<ul style="list-style-type: none"><li>• Developed a Flask-based interface integrated with Firebase for auth and data sync.</li><li>• Designed and developed a voice-activated AI assistant for visually impaired users via GPT-3.5 API.</li><li>• Deployed using CI/CD with secure SSH pipelines via GitHub Actions.</li></ul>	
Full Stack - AASYP Chat System	Aug 2024
A modern full-stack internal chat system built for ASEAN-Australia Strategic Youth Partnership (AASYP).	
Tech Stacks: Django, Python, BootStrap, React, Firebase, GitHub Actions	
<ul style="list-style-type: none"><li>• Built a real-time messaging app with user auth, chat, and contact management using Django, WebSocket, and React.</li><li>• Designed a clean, responsive UI with real-time search, module transitions, and intuitive navigation.</li><li>• Deployed with Docker containers and automated CI/CD pipeline via GitHub Actions.</li></ul>	
Frontend - Personal Website	Nov 2024
A modern personal portfolio website designed to showcase projects, blog posts, and photography.	
Tech Stacks: Next.js, React, Typescript, Tailwind CSS, Supabase, Vercel	
<ul style="list-style-type: none"><li>• Built a responsive, single-page portfolio using Next.js, TypeScript, React, and Tailwind CSS.</li><li>• Integrated Supabase PostgreSQL as a backend database for managing blog posts, images, and user data, implemented RESTful API endpoints.</li><li>• Implemented dark/light modes, responsive design, image lazy-loading, and long-term caching to enhance UX and loading speed on all devices.</li><li>• Deployed on Vercel's serverless platform with automatic CI/CD and environment config.</li></ul>	
Backend - Parallel Implementation of Search based on Fish School Behaviour	Nov 2024
A high-performance computing implementation in C using multi-threading and multi-processing to simulate fish school behavior.	
Tech Stacks: OpenMP, MPI, Bash	
<ul style="list-style-type: none"><li>• Achieved a dynamic simulation of fish school behavior by designing a sequential C simulation that enables diverse testing scenarios through adjustable simulation steps and fish numbers.</li><li>• Enhanced the program's speed by introducing a multi-threaded implementation with OpenMP and distributed memory parallelism with MPI, allowing for fine-grained experimentation with process and thread counts, scheduling strategies, and advanced parallelization techniques.</li><li>• Automatically tested various combinations of number of processes, threads, and OpenMP scheduling types on the Setonix supercomputer, optimizing cache behavior and array partitioning for maximum performance.</li><li>• Recorded a remarkable speedup, achieving 100x performance improvement compared to the serial model when utilizing 4 processors and 32 threads.</li></ul>	

## Technologies

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Languages: Python, Java, C, JavaScript, HTML, CSS, Bash, R

Frameworks & Libraries: Flask, Django, React, Next.js

Cloud & DevOps: AWS (IAM, EC2, S3, Amplify, Lambda), Docker, Git, GitHub Actions, Jenkins

Databases: PostgreSQL, SQL Server, SQLite, Firebase, Supabase

Project Management & Documentation: Trello, Google Workspace, Latex, Markdown, Swagger

## References

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