

Hai Chau Le

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EDUCATION

University of Sydney

Expected Graduation: July 2027

Bachelor of Advanced Computing, Major in Computer Science and Software Development

WAM: Distinction

- **Awards:** Vice-Chancellor's Int'l Scholarship & Sydney Int'l Student Awards 2023, Gold medal AIGC 2020
- **Coursework** (*current): Intro to Programming, Data Science, Computer Systems, Discrete Math, Data structure & Algorithm, OOP, Model of computation*, OS and Network*, Agile software development*, Design pattern*

EXPERIENCE

ScrollForge - Full-Stack Application

Oct. 2024 - Present

Full Stack Developer and Founder (Spring Boot, React)

291 Abercrombie St, Darlingtown, NSW, 2008

- Founded **ScrollForge**, an innovative platform designed for collaborative document sharing and real-time note-taking, featuring a secure **Spring Boot** backend and a user-friendly **React** frontend
- Engineered robust and scalable backend services by building RESTful APIs with **Spring Boot**, integrating a Dockerized **MySQL** database, and implementing role-based access control to manage permissions effectively.
- Built a responsive frontend with **React**, **Redux**, and **TailwindCSS** for state management and **Axios** for backend communication.

React Plus Group - Employee Management System

Jun. 2024 - Aug. 2024

Backend internship (NodeJS, Express)

24 Nguyen Co Thach St, Nam Tu Liem, Hanoi

- Implemented scalable RESTful APIs using Node.js and Express. Integrated a PostgreSQL database for storing and employees information such as their annual leave
- Implemented a comprehensive work progress tracking feature, allowing managers to monitor employee tasks and project milestones in real-time, facilitating better resource allocation and productivity analysis.

Xtel Software Solutions

Dec. 2023 - Feb. 2024

Internship (Python, Selenium, BeautifulSoup)

AD Building, Dich Vong Hau St, Hanoi

- Automated large-scale news extraction using **Python** and **Selenium** to ensure timely data flow for the AI team's
- Built pipelines to clean, format, and store data in **MySQL**, with documents indexed in **OpenSearch**
- Enhanced **OpenSearch** capabilities to efficiently filter and retrieve relevant news data for AI model training

PROJECTS

RecallRacer - Interactive Learning Platform

Sep. 2024 - Present

Full Stack Developer (Flask, React, LangChain)

Hackathon

- Co-founded **RecallRacer**, a learning platform that enhances student engagement via active recall and competition, generating custom materials from PDFs, .mp4 videos, and other files using an LLM.
- Integrated **OpenAI's GPT-4** via **LangChain** for structured output of learning content, ensuring consistency and relevance, while employing **React** and **Mantine UI** to create a user-friendly, interactive frontend.
- Built a **Flask** backend with **Flask-PyMongo** for MongoDB database integration and used **Firebase** for secure user authentication, optimizing for development speed and scalability.

University of Sydney - PacMan Game

Jul. 2024 - Nov. 2024

Software Engineer (Gradle, JavaFX)

University of Sydney

- Designed adaptive ghost AI with **State**, **Strategy**, and **Decorator Patterns** for varied behaviors (chase, scatter, frightened) and temporary boosts, enhancing gameplay dynamics and unpredictability.
- Implemented **Observer Pattern** to update UI elements (score, lives, game state) in real-time with structured subjects and observers, creating a responsive game interface.
- Used **Command Pattern** to organize movement commands, allowing flexible control of Pac-Man's movements
- Employed **Factory Method** and **Singleton Patterns** for dynamic entity creation (walls, pellets, Pac-Man, ghosts) and centralized resource management, ensuring efficient memory use and flexible game design.

TECHNICAL SKILLS

Languages: Java, Python, C, C++, R, LaTeX, AVR, JavaScript, HTML/CSS, SQL, TypeScript, NodeJS, Bash

Packages & Libraries: ggplotly, ggplot, Selenium, Axios, Processing, Joi, Winston, Morgan, Nodemon, Dotenv, Multer, Prisma, JavaFX, Numpy, Pandas, BeautifulSoup, Requests, Threading, Socket

Developer Tools: Docker, Postman, Navicat, Git, Gradle, Jenkins, Jira, Nulab

Frameworks (Backend): Spring Boot, Django, Express, Flask, FastAPI

Frameworks (Frontend): React, Vue, TailwindCSS, Redux

Databases: MySQL, PostgreSQL, MongoDB, SQLite, Redis, AWS S3