

TOTSUKA TOMOFUMI

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EDUCATION

National University of Singapore Aug 2021 – Aug 2025
Bachelor of Computing (Honours) in Computer Science (Artificial Intelligence Focus Area)

- Relevant Coursework:
Programming Methodology, Programming Methodology II, Data Structures and Algorithms, Software Engineering, Computer Organisation, Introduction to Operating Systems, Database Systems, Introduction to Information Security, Introduction to AI and Machine Learning, Design and Analysis of Algorithms, Foundations of Machine Learning, Natural Language Processing, Computer Vision and Pattern Recognition

Chulalongkorn University (NUS Student Exchange Programme) Aug 2023 – Dec 2023
Bachelor of Engineering in Information and Communication Engineering (International Program)

- Relevant Coursework:
Internet of Things, User Interface Design, Principles of Information System, Netcentric Architecture

EMPLOYMENT

Pentas Vision (Sony Semiconductor Solutions) May 2025 – Nov 2025
Embedded Systems Development Intern

- Led development of a production-grade frontend dashboard for computer-vision model training workflows, establishing scalable architecture and engineering best practices.
- Designed and implemented a chatbot interface powered by LLMs and VLMs, with SSE streaming and rich conversational UI (history management, image/file uploads, RAG).
- Leveraged Knowledge: TypeScript, React, Ant Design Pro, Ant Design, ProComponents, Ant Design X, UmiJS, OpenAPI, FastAPI, Python, Git, GitLab

Rohde & Schwarz May 2024 – Aug 2024
Intern, Software Developer

- Co-developed a full-stack, real-time lab management dashboard to automate lab workflows.
- Co-implemented microservices with service discovery to interface with legacy lab software.
- Leveraged Knowledge: TypeScript, React, Redux, C#, ASP.NET Core, SignalR, gRPC, Consul, Git, GitLab

PROJECTS

Personal Website: totsukatomoofumi.com (for additional information)

VisualPython (NUS BComp Dissertation (FYP))

- Extended a brownfield drag-and-drop Python learning platform with real-time collaborative coding sessions for peer-to-peer and instructor interaction.
- Utilised: React, Redux, Django, Django Channels, Redis, Daphne, Docker, Git, GitHub

Battleship (github.com/battleship-web/battleship)

- Co-developed the backend of a real-time, online multiplayer, "Battleship" web clone.
- Utilised: JavaScript, Express, Socket.IO, Redis, Mongoose, Git, GitHub

Smart Trash Can

- Co-implemented software for a IoT-based waste-sorting system using servos and sensors.
- Utilised: C, Python, STM32, Raspberry Pi

myStudent (ay2223s1-cs2103t-f12-4.github.io/tp/)

- Co-developed a Java-based tuition centre management application.
- Utilised: Java, JavaFX, JUnit, Git, GitHub, Codecov

OTHER SKILLS

SWE: HTML/CSS, Tailwind CSS, Three.js, R3F, React Bootstrap, PostgreSQL, C, MIPS, Unix, Bash
ML: PyTorch, NumPy, Pandas