

Jethro Chia

+65 8644 2279 · 230740A@mymail.nyp.edu.sg · Singapore
<http://github.com/Shockz132> · <https://shockz132.github.io/Portfolio/>

EDUCATION

Nanyang Polytechnic - Electronic and Computer Engineering

03/2023 - Present

- Cumulative GPA: 3.95
- Awarded Director's List (AY2023)
- Awarded Director's List (AY2024)
- Awarded A*STAR Scholarship (2024)
- Volunteered in the Peer Tutoring Program (2024)
- 1st in NYP SEG TechNexus Project Showcase (2025)
- Project Nominated for Lee Hsien Loong Interactive Digital Media Award (2025)

Woodgrove Secondary School - GCE 'O' Levels

01/2019 - 07/2022

- L1R4 - 14
- Achieved Edusave Eagles award (2022)
- Achieved Most Improved Student (2019)
- In Charge of Logistics for Badminton (2022)
- Assistant in Charge of Logistics for Badminton (2021)

EXPERIENCE

Agency for Science, Technology and Research

02/2025 - 04/2025

Research Intern

Complex Table Understanding Model Project

- Table Extraction:** Evaluated and compared multiple table extraction methods, including Python libraries (e.g., img2table, PaddleOCR, Camelot-py), HTML, CSV, JSON, and LLM-based prompting for PDFs and images, to determine optimal performance across various file formats and methods.
- LLM Prompt Optimization:** Refined Large Language Model (LLM) prompts, achieving a 15-20% improvement in extraction accuracy.
- Research and Analysis:** Conducted in-depth research on table extraction techniques via Arxiv and ACL Anthology, synthesizing findings to draw actionable conclusions and recommend best practices.
- Dataset Development:** Designed and built a QA pair dataset to rigorously test the model's performance, ensuring robust validation and reliability of results.
- Industry Collaboration:** Contributed to a project involving Hyundai, processing tables from technical manuals, showcasing adaptability to real-world industry applications.

PROJECTS

PlantPulse - Full Stack IoT Smart Community Garden Project

HTML, Tailwind CSS, React TS, Python, SQLite

- Developed a full-stack IoT solution enabling smart gardening through real-time monitoring, user management, and AI-driven advisory features.
- The frontend consists of a landing page, web dashboard, user authentication, and a chat page with AI advisor Sprout. Frameworks and libraries used include Nextjs, ShadCN UI, lucide-react, Spline 3D.
- The backend consists of a python web server using Flask, SocketIO and spaCy for the AI. Enabling real time communication between IoT devices and the users.

Logic Gate Circuit Solver - Personal Project

HTML, React JS, C

- Developed a web app for users to create a logic gate circuit using the drag and drop UI and generate the respective truth table for the circuit. Built using React, Javascript, React Flow, and C.
- Users connect the nodes found on the logic gate blocks to construct the circuit and download the txt file that will be copied over to the directory of the C program and then run the C program to get the truth table.

Wings Of Sustainability - IoT Black Soldier Fly (BSF) Rearing Project

Python, M5Stack, Qubitro, MQTT

- Developed an IoT system for a sustainable BSF rearing farm, utilising M5Stack micro-controllers to record environmental conditions and reduce manpower requirements by a significant percentage.

SKILLS

- Software Development** - (Proficient): Python, HTML, CSS, Javascript, Typescript, React, Github. (Familiar): SQL, C, C#, React Native, spaCy, hugging face
- Electronic System Design and Analysis** - (Proficient) Electronic Circuit Analysis, Electronic Devices Applications and Digital Electronics. (Familiar): Autodesk Eagle, ATmega328pb, Soldering.
- IoT System Design** - (Proficient) Arduino Uno, M5Stack Fire Duo, Beaglebone, Web SocketIO (Familiar): MQTT, Qubitro.

HACKATHONS

- (Present) NUS HumanITY Hackathon 2025
- (Present) Participating in BrainHack 2025

REFERENCES

Nanyang Polytechnic

Mr Toh, Personal Mentor / Course Manager
+65 6550 0672
Toh_weizhong@mymail.nyp.edu.sg

A*STAR

Dr Zou Bo Wei, Supervisor
zou_bowei@i2r.a-star.edu.sg

LANGUAGES

- English (Native or Bilingual Proficiency)
- Chinese (Limited Working Proficiency)