

Jethro Chia

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<http://github.com/Shockz132> · <http://github.com/Shockz132/Portfolio>

DIPLOMA HOLDER

An Electronic and Computer Engineering Polytechnic Student, passionate about computers and coding, a curious problem-solver with a love for exploring new technologies. Always eager to learn and grow, wanting to create innovative and impactful solutions that contribute to society.

EDUCATION

Nanyang Polytechnic

Electronic and Computer Engineering
3.95 CGPA

03/2023 - Present

Academic Achievements

- Awarded Director's List (AY2023)
- Awarded Director's List (AY2024)
- Awarded A*STAR Scholarship (2024)
- Volunteered in the Peer Tutoring Program (2024)

Woodgrove Secondary School

GCE 'O' Levels
L1R4 - 14

01/2019 - 07/2022

Academic Achievements

- 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)
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WORK EXPERIENCE

Agency for Science, Technology and Research

02/2025 - 04/2025

Research Intern

The Agency for Science, Technology and Research (A*STAR) drives mission-oriented research that advances scientific and technological discovery.

Achievements/Tasks

- **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.
 - **LLM Prompt Optimization :** Refined Large Language Model (LLM) prompts, achieving a 15-20% improvement in extraction accuracy , demonstrating strong analytical and problem-solving skills.
 - **Research and Analysis :** Conducted in-depth research on state-of-the-art 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.
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SKILLS

- **Software and Web Development**
- Proficient in Python, C, C#, HTML, CSS, JavaScript, Typescript, React, SQL. Creating dynamic, user-friendly web applications using frameworks such as NextJS, React, Node.js, ShadCN UI.
- Created a Logic Gate Circuit Solver website 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, Node.js, C.

- Created a Smart Gardening website for an automated gardening farm. Users have real time monitoring and data analytics on their plants, viewed from the dashboard hosted on a web server. Built using Javascript, Typescript, React, NextJS, ShadCN UI, Spline 3D and spaCy.
- Created a Food Stall website to showcase and promote a food stall's menu, pricing, and their operating hours. Allow customers to order online or through a mobile app. Built using HTML and Vanilla CSS.

Internet Of Things (IoT) System Design

- Proficient in designing end-to-end IoT solutions, integrating hardware, software, and cloud components such as Arduino Uno, M5Stack Fire Duo, BeagleBone Black Wireless, ATmega32pb, MQTT, Qubitro, WebSocketIO, etc.
- Embarked on an M5Stack Black Soldier Fly Rearing Project which aims to make insect farming more efficient by automating most of the manual labour and creating a self-sustaining ecosystem between insects and plants. Built using M5Stack Fire Duo, Python, MQTT and Qubitro
- Created a Smart Gardening System for automated gardening. Each Beaglebone Black Wireless connected to a mikroBUS Cape Board with the respective clicks attached, e.g. force click, motion click, environment click, gesture click, analog key click, etc. . Built using Python, WebSocketIO

Electronics System Design and Analysis

- Proficient in PCB Design, Electronic Circuit Analysis, Electronic Devices Applications and Digital Electronics. Familiar with using AutoDesk Eagle and Soldering Components.
- Created a Microcontroller System Design using the ATmega38pb microchip and designed part of the schematic and the entire pcb including the routing.
- Created a Digital Thermometer using Op Amps and LEDs and designed some of the schematic and the entire pcb including the routing.

Automation & AI Tools:

- Proficient in Python, Git, Github and Limited Proficiency in spaCy. Experienced in using Python for automating workflows and scripting tasks. Familiar with spaCy for AI-related projects, and proficient with Git and Github for version control and collaborative development.
- Collaborated with a team on a Full Stack IoT Smart Gardening website for an automated gardening farm using Github.
- Integrated a chatbot using spaCy into the website of the Smart Gardening website.
- Developed multiple open source projects on Github both personal and for school.

CO CURRICULAR

Woodgrove Secondary School

- Badminton (In Charge of Logistics), 2021-2022
 - Played an Active Role in handling transportation of equipment to the venues
 - Achieved 4th in the "B" Division Competition

HOBBIES / INTERESTS

- Cooking
- AI & Machine Learning
- Software Development
- Computer Engineering

REFERENCES

Nanyang Polytechnic

Mr Toh, Personal Mentor / Course Manager
+65 6550 0672

Toh_weizhong@mymail.nyp.edu.sg

A*STAR

Dr Zou Bo Wei

zou_bowei@i2r.a-star.edu.sg

LANGUAGES

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