

# Heng Sheng Yao, Dan

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Portfolio website: <https://dan-portfolio-orpin.vercel.app/>

## PROFESSIONAL SUMMARY

Computer Science undergraduate with an open-minded and adaptable approach to software development, interested in building software solutions to real-world problems and improving user experiences.

## EDUCATION

**Singapore Institute of Technology (SIT) / University of Glasgow (UOG)** **Sep 2024 – Current**

- BSc (Hons) Computing Science
- Expected Graduation: Sep 2027

**Nanyang Polytechnic (NYP)** **Apr 2019 – Apr 2022**

- Diploma in Robotic & Mechatronic Engineering
- Awards: Director's List (AY20/21, AY21/22), Edusave Merit Bursary (2021, 2022), Edusave Cert of Academic Achievement (2021)

**Institute of Technical Education (ITE)** **Apr 2017 – Apr 2019**

- Higher Nitec in Mechatronics Engineering
- Awards: Merit Bursary (2018), Edusave Cert of Academic Achievement (2018)

## WORK EXPERIENCE

**STEM TRAINER (Freelance) / Newton show** **June 2024 – Current**

- Managed and taught students aged 4–11 by executing lesson plan that promotes technical proficiency and increased interest in STEM topics

**Technical Operations (Intern) / SSMC** **Mar 2021 – Sep 2021**

- Supported automation system deployment, configuration, and troubleshooting
- Assisted with post-deployment housekeeping to ensure smooth operations
- Maintained system information and updated deployment records, reducing weekly eRack pod errors by 15%

## PROJECTS

**Software Quality Assurance Platform (On-going)**

- A CI/CD DevSecOps platform for code quality validation and automated build, testing, security scanning, and deployment.
- Implemented web interface to easily configure and track build pipelines.

**Smart Pantry Tracking & Recipe Recommendation System**

- AI-powered web app that identifies groceries from photos, tracks ingredients, expiry dates and estimates quantities.
- Mobile alerts and portioned recipe recommendations to help users avoid food spoilage, overbuying, and overcooking.
- Integrated AI Singapore's SEA-LION to generate authentic Southeast Asian recipes and enable multilingual support.

**Flight Map Routing Web Application**

- Built a web interface to compute and recommend flight routes between airports.
- Ranked and compared routes based on distance, number of connections, and cost-effectiveness using various algorithms.

### **Smart Waste Management System**

- Developed an IoT-based waste management system with a real-time monitoring dashboard.
- Integrated multiple sensors to track waste levels, temperature, humidity, and liquid spillage in real time.

### **Community Animal Care & Reporting Web Application**

- Developed a community reporting platform to enable quick submission of animal incident.
- Built community forums to support discussion and information sharing about neighborhood animals.
- Implemented a containerized microservices architecture for scalability and maintainability.

### **Game Market Analytics & Data Management Platform**

- Developed a centralized video game data platform to support sales comparison, trend analysis, and planning.
- Dashboard to compare game sales across platforms and regions.
- Managed structured and unstructured data to support analytics and reporting.

## **ACTIVITIES**

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### **Singapore Institute of Technology (SIT)**

- Build for Impact Hackathon 2026 Participant
- SIT Breakers
  - Origins Interschool Participant (2025)
  - SBS Transit Performer (2025)
  - SITizen Day Performer (2025)
  - SITizen Welcome Wave Participant (2025)
- SIT Soul Extreme
  - SIT 10<sup>th</sup> anniversary performer (2024)

## **TECHNICAL SKILLS**

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### **Languages**

- C, Java, Kotlin, Python, Rust, html, CSS, JavaScript

### **Database**

- MongoDB, MySQL, PostgreSQL

### **Software tools**

- Git, Docker, Postman, Jupyter Notebook, Cisco Packet Tracer, Putty

## **LANGUAGES**

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### **Spoken**

- English, Chinese

### **Written**

- English



Portfolio Website  
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