

# Ang Zhe Hao (Nicholas)

<https://github.com/nicholassang/> • nicholasang.2024@computing.smu.edu.sg • +65 85080360

## EDUCATION

SINGAPORE MANAGEMENT UNIVERSITY (SMU)

Aug 2024 - Apr 2028

Bachelor of Science in Software Engineering

## PROJECTS

Multiplayer “STRESS” Card Game | [GitHub](#) | [Website](#)

TypeScript, React, Express, Node.js, WebSockets, AWS EC2, AWS API Gateway, Lambda, DynamoDB, Nginx

- Built a real-time multiplayer card game with matchmaking and room hosting, synchronizing player actions at ~20 FPS using WebSockets
- Deployed and load-tested backend on AWS EC2 to support **100+ concurrent connections**
- Designed REST APIs with **AWS API Gateway** and **Lambda** to store and retrieve match data from **DynamoDB**
- Configured Nginx as a reverse proxy and enabled SSL for secure client-server communication

Global Display for Webscraped Popular Movie Filming Locations | [GitHub](#) | [Website](#)

TypeScript, React, Python, FastAPI, Selenium, AWS Lightsail, Docker Compose, PostgreSQL, Nginx

- Web-scraped filming locations for the **top 100 popular movies on IMDb**, extracting **300+ locations**
- Built an **ETL pipeline** to geocode filming locations and load structured data into PostgreSQL
- Visualized the data using **globe.gl** with interactive heatmap and point map layers
- Containerized backend services and database using **Docker Compose** for reproducible deployment
- Deployed the application on **AWS Lightsail** with Nginx reverse proxy and SSL enabled
- Scheduled a **6-hour cron job** to refresh movie rankings and location data automatically

BetterReadME CLI (Multi-Language Support) | [GitHub](#)

C++, CMake, Python

- Built an interactive **CLI tool** with a REPL loop to generate and modify README files by adding structured headers and descriptions
- Integrated **argos-translate** to provide automated multi-language translation support for generated documentation

## COURSEWORK

- [HEAPS Programme – Team Lead] Social Calendar Application (React, Express, Node.js, Vercel, Render)
- [CS102] Face Recognition Student Attendance System (Java, OpenCV, PostgreSQL)

## CERTIFICATIONS

- [AWS Certified Solutions Architect – Associate](#) (2025)
- [AWS Certified Developer – Associate](#) (2025)

## TECHNICAL SKILLS

- Languages: TypeScript, Python, C++, Java
- Frameworks: React, Vue, Node.js, Express, FastAPI, Spring
- Databases: PostgreSQL, MySQL, DynamoDB
- Cloud: AWS (EC2, API Gateway, Lambda, Lightsail)
- Tools: Github, Git, Docker, Docker Compose, Nginx