

**TAN Hao Jie**

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**EDUCATION**

**Nanyang Technological University, Singapore**

**AUG 2018 – MAY 2022**

- **Bachelor of Engineering (Computer Science)**
- Honours (Highest Distinction), CGPA: 4.61/5.00
- Elective Focus in Data Science & Analytics and Cyber Security
- Achieved Distinction in: Distributed Systems, Database System Principles, Software Systems Analysis & Design, Machine Learning, Computer Security, Advanced Computer Architecture

**WORK EXPERIENCE**

**SeaMoney Pte Ltd, Singapore**

**JUN 2022 – Current**

**Backend Software Engineer (Digital Bank)**

- Involved in development of various microservices for MariBank, one of Singapore's upcoming digital banks, using Java and Spring Boot.
- Designed and implemented scalable and distributed software systems, after gathering requirements from product managers, while adhering to an Agile Sprint schedule.
- Demonstrated code quality excellence by improving code coverage of existing codebase and successfully raising code coverage from 33% to 95%, by writing unit tests in Mockito.
- Tasked with various bug fixes arising from user acceptance testing.

**Government Technology Agency (GovTech), Singapore**

**JAN 2021 – JUL 2021**

**Software Engineering Intern**

- Designed and developed a backend application for several IoT devices using JavaScript, which includes RabbitMQ servers for messaging, and hapi.js for API endpoints. FFmpeg was also used to process and deliver livestreaming video feeds as per business requirements.
- Implemented API endpoints for a Computerized Maintenance Management System (CMMS), utilizing several web technologies such as JSON web tokens and curl command line tool.
- Created a dashboard to monitor status of IoT devices using React.js and Material-UI framework.

**Wright Management International, Singapore**

**MAY 2020 – AUG 2020**

**Software Engineering Intern**

- Tasked with designing and developing new functionalities of a web application for company's clients, using Ruby on Rails framework, HTML, CSS, and Javascript.
- Implemented a web dashboard using Bootstrap 4 and Echarts framework in the web application to help clients to visualize critical project management processes and workflow data, such as lagging and unfinished cases.

**JR Vending Pte Ltd, Singapore**

**MAY 2019 – AUG 2019**

**Operation Intern**

- Developed a web scraping script in python, to automate daily retrieving of sales data from supplier's website, and email it automatically to the company. As a result, operation executives could save time performing this mundane task and increase their productivity.
- Identified key market trends for the local vending machine landscape and presented insights to the operation manager to craft a report for a company partnership.
- Implemented a google form for technicians to fill in after finishing daily maintenance, hence increasing streamlining of workflow for the company.

**DSO National Laboratories, Singapore**

**DEC 2019 – JAN 2020**

**Temporary Technical Staff**

- Refactored a python brainwave data tracking program that was initially meant for PC, so that it would run on a raspberry nano.
- Wrote a python script that allows the user to play mp3 files through a serial chip.
- Designed an interface using lab streaming layer, so that EEG and TOBI eye tracker data could be streamed and synchronised.
- Utilized Excel to plot graphs for visualizing experiment data of electrode conductivity.

**Ministry of Manpower, Singapore**

**MAR 2018 – AUG 2018**

**Office Interviewer**

- Conducted various surveys with local households over phone to assist the ministry in better learning about Singapore's employment trends and gaining valuable customer service experience in the process.
- Performed data entry on Excel such as keying in survey returns, amending data, and hence reducing frequency of erroneous data.

**DSO National Laboratories, Singapore**

**DEC 2015 – FEB 2016**

**Contract Staff**

- Implemented company software onto new laptops and desktops to dispatch to employees, hence enabling integration into company's technological ecosystem better.

## **ACADEMIC PROJECTS**

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**Nanyang Technological University, Singapore**

**Final Year Project: guitAR**

**AUG 2021 – MAY 2022**

- Prototyped a marker-less augmented reality application for guitar learning using computer vision algorithms. Python and OpenCV were used for development.
- Achieved a distinction grade and was featured in the school's showcase for final year projects.

**Nanyang Technological University, Singapore**

**Software System Analysis & Design Project: SEHaw**

**AUG 2021 – NOV 2021**

- Designed and delivered a top-down shooter game to teach software engineering concepts.
- Developed in Godot, an open-source game engine and Google Firestore for backend database.

**Nanyang Technological University, Singapore**

**Smart Nation Software Engineering Project**

**JAN 2020 – MAY 2020**

- Implemented an android application that allows doctors to interact and visit patients that are home-bounded in a grab-like manner.
- Leveraged Google Firebase for backend database and Google Maps API for core application functionality.

**Nanyang Technological University, Singapore**

**Object Oriented Design & Programming Project**

**AUG 2019 – NOV 2019**

- Developed a console-based application that allows movie-goers to book tickets online seamlessly.
- Designed the application while observing object-oriented design principles such as encapsulation and polymorphism.

## **LEADERSHIP & CO-CURRICULAR ACTIVITIES**

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**School of Computer Science and Engineering, NTU**

**AUG 2019 – NOV 2019**

**Peer Tutor**

- Tutored students on a module (CZ1006 Computer Organisation & Architecture) that I took and got a distinction in last semester.

**Cultural Activities Club Business Committee, NTU**

**AUG 2018 – AUG 2019**

**Business Manager**

- In charge of finding sponsors for CAC Events such as exam welfare pack, resulting in two sponsored items sourced.

**HALL 2 Basketball, NTU**

**AUG 2019 – JAN 2020**

**Member**

- Participated in trainings and competitions.

**Soul Funky Dance Club, NTU**

**AUG 2018 – AUG 2019**

**Member**

- Participated in trainings and competitions.

**LANGUAGES & SKILLS**

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**Languages:** English, Mandarin

**Programming Languages:** Python, Java, C++, Rust, HTML/CSS, Javascript, MySQL, MongoDB

**Programming Frameworks:** Spring Boot, Express.js, hapi.js, react.js, Node.js, Tailwind CSS, Next.js, OpenCV

**Tools:** Jira, Confluence, Gitlab, GitHub, IntelliJ IDEA, Maven