

Isaac Tan Pang Yew

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EDUCATION

• National University of Singapore

Bachelor of Science in Computer Science; GPA: 4.50

Singapore

Aug. 2020 – Dec. 2023

- **Involvement:** UTCP Tembusu Graduate, NUS Computing Club Member
- **Specialisation:** Software Engineering, Machine Learning and Artificial Intelligence
- **Key Coursework:** CS2030 Programming Methodology II: A, CS2040 Data Structures and Algorithms: A+, CS3243 Introduction to Artificial Intelligence: A+, CS4218 Software Testing: A
- **Languages and Technologies:** Python, Java, C++, C, Typescript, Docker, React, SQL, AWS, Flask, FastAPI, Next.js, Vue.js, opencv, sklearn, kubernetes

EXPERIENCE

• Factorem

Algorithm Engineer

Singapore, Singapore

Feb 2024 - Present

- **Order Matching System:** Lead engineer of one of the key pillars of Factorem's core technologies. Oversaw refinements with iterative feedback loop from users. Reduced a manual process that could take up to 5 minutes to seconds
- **Price Prediction:** Proposed a Machine learning solution to price prediction that performed at an internal accuracy rate of above 90% – approximately a 20% increase in accuracy over existing methods. Identified and patched a critical memory leak issue which caused intermittent crashing issues that was plaguing the team for months.
- **System Design:** Presented insights and suggestions on system architecture and design. Led efforts to move from a monolithic service to a microservice architecture, which allowed for higher scalability and modularisation.
- **Testing:** Encouraged more comprehensive testing, by highlighting a lack of unit and integration tests which were implemented to obtain a benchmark of 80% code coverage.
- **CI/CD:** Deployed various services using AWS EC2 architecture with load balancers for scaling. Created code pipelines for deployment and automated testing.

• A*Star

NLP Intern

Singapore, Singapore

May 2023 - August 2023

- **LLM:** Built a dialog system from the ground up to support chat bot functionality for an AI tutor project using cutting edge technology like LLaMA and Vicuna and integrated it into the existing chainer architecture.
- **Multi Modal capability:** Integrated a image recognition model to allow chat bot to interpret and respond to images.
- **Demo:** Selected to present and demonstrate the new chatbot capabilities to clients, which was well received.

• Ernst and Young

Cybersecurity Consulting Intern

Singapore, Singapore

May 2023 - August 2023

- **Automation:** Created scripts to automate and enhance reviews of Nessus cybersecurity scans which helped to cut down manual processes by 50% and reduce human error.

• Nalagenetics

Data Engineering Intern

Singapore, Singapore

Nov 2020 - Feb 2021

- **Data Collection:** Gathered quantitative and qualitative data from creating and collecting survey and interview data from physicians and clients
- **Dashboarding:** Created simple dashboards using tableau to explain trends from gathered data

INDIVIDUAL PROJECTS

- **Stopover:** Suggests cafes based on start and end location. Pitched to a panel of professors and secured 10k VIP@SOC grant to further grow the idea. *Google Maps API, MySQL, python*
- **Stay Awake Stay safe:** Driving companion that detects if eyes are closed. *sklearn, opencv, flask, react native*
- **FitsBRO:** Provides workout recommendations based on available equipment in the gym. *telegram, gpt3.5*
- **SOS Companion app (Hack n Roll):** Ideated as a companion app for Samaritans of Singapore. It offers chat and forum functionalities. *react, Express.js, firebase, typescript*