

EDUCATION

Nanyang Technological University, Singapore
Bachelor of Engineering, Computer Science

Aug 2020 – May 2024

- Specialising in Artificial Intelligence and Cybersecurity.

WORK EXPERIENCE

Mutwil Lab, School of Biological Sciences, NTU

Sep 2023 – Dec 2023

Research Intern

- Developed insightful visualisations from genomic data comparing sporophyte and gametophyte stages of fern species.
- Collaborated with multi-disciplinary research team to understand and implement data visualisations using Matplotlib and Seaborn.
- Programmed python script to automate generation of data visualisations for 62 processes across 12 fern species.

STMicroelectronics

May 2023 – Aug 2023

Data Science and Analytics Intern

- Developed the backend of generalised testing software for machine learning models using unittest, scikit-learn, FastAPI, etc.
- Collaborated with a multidisciplinary team of data scientists and engineers to design testing solution architecture.
- Deployed and tested models on Dataiku platform to predict wire bond integrity in semiconductor chips.
- Conducted a 3-day workshop in Java for 20+ staff from different sites.

Temasek Laboratories @NTU

Jan 2023 – May 2023

Full Stack Developer Intern

- Collaborated with a team of developers to improve multimedia transcription and indexing MERN (MongoDB, Express, React, and Node.js) application.
- Refactored code using TypeScript and tested docker deployments on Linux-based virtual machines in Azure cloud.
- Implemented webhooks for automation of speech-to-text job updates followed by frontend improvements and fixes.
- Developed and optimised python scripts for processing code-switch ASR (Automatic Speech Recognition) output.

VFlowTech

May 2022 – Aug 2022

IoT Intern

- Reviewed 3rd party IoT platforms and coordinated with developers to debug issues and improve user experience.
- Programmed firmware on Raspberry PI/Advantech using C++ with Modbus TCP/IP and HTTP/MQTT protocols.
- Evaluated and tested AWS, Google Cloud, Azure and Digital Ocean services for IoT platform development.
- Spearheaded and led IoT development team for creating new monitoring platform using MERN stack.
- Set up servers on AWS EC2 and added NGINX configuration for TLS encryption.
- Initiated and proposed implementation of machine learning algorithms and predictive alerts using IoT data.

PROJECTS

Voice Activity Detection Systems (Final Year Project)

Jun 2023 – Mar 2024

- Trained and tested multiple PyTorch based VAD models on standard speech datasets using Aspire2A GPU cluster.
- Working on optimising models and obtaining real-time output using Open Neural Network Exchange (ONNX).

Intellicheck (Alfinity Hackathon)

Mar 2023

- Conceptualised an AI application to help teachers correct exams and provide personalised feedback to student.
- Sourced Handwriting OCR models from Hugging Face, using OpenCV for pre-processing
- Performed Named Entity Recognition using Flair, with NLTK and SpaCy.

Self-Navigating Robot Project

Aug 2022 – Nov 2022

- Led a multidisciplinary team of 8 to programme self-navigating robot in a known environment.
- Independently programmed Java Android application for controlling robot via Bluetooth.
- Achieved rank 1 competing against 47 teams in the first task.

PreSchool GoWhere

Aug 2022 – Nov 2022

- Created a full stack web application to generate personalised recommendations for pre-schools based on 10 criteria.
- Leveraged PostgreSQL, Express, React, Node.js (PERN stack), Google Maps API and deployed on Firebase.

MyBikeSG

Feb 2022 – Apr 2022

- Pioneered a full stack web application to help cyclists find Bicycle Racks, Flat Routes, and Repair Shops close to current location or destination.
- Created using MongoDB, Express, React, and Node.js (MERN stack) and deployed on Firebase and Heroku.

Restaurant Reservation System

Oct 2021 – Nov 2021

- Built a flexible restaurant point of sale system as a command line application in Java utilising object-oriented programming concepts.
- Modelled a reservation system by applying UML class and sequence diagrams using Visual Paradigm.

Review Score Prediction in E-Commerce

Jan 2021 – Mar 2021

- Analysed the Brazilian e-commerce public dataset by Olist on Kaggle.
- Predicted review score of different categories of products using numPy, pandas, seaborn & matplotlib.
- Trained regression models (linear, random forest) and classification models (logistic, random forest).

Railway Reservation System

Jan 2020 – Mar 2020

- Developed a command line application for passenger seat reservation in C++ using inheritance, object-oriented programming, file handling etc.

ACHIEVEMENTS

International Quant Championship - Stage 1, World Quant

Jul 2023

- Recognized for team's outstanding performance in top 20% globally.

V-Work Asia-Ready Exposure Programme, Cognizant x National Youth Council

Jul 2022

- Presented on role of 'Data Science and AI in Pandemic Management' with a team from ASEAN, India and China.
- Ranked amongst top 4 teams and awarded with "The Best Challenge Statement Project Presentation".

CO-CURRICULAR ACTIVITIES

AI Student Developer Conference, AI Singapore

Mar 2023 – May 2023

Program Director

- Organised inaugural AI Student Developer Conference for 300+ attendees, securing participation from leading companies like AWS, NVIDIA, IBM, Google, Grab, etc.
- Built admin portal with Next.js, Firebase, and Firestore to manage event and facilitated MoU signing between government agencies.
- Conducted hands-on AI workshops by Microsoft, AWS, engaging 45+ students with practical learning.

Students' Computer Science and Engineering Club, Nanyang Technological University

Oct 2022 – Apr 2023

Academics Executive

- Organised 'Techterview 101' event for helping students crack technical interviews.
- Delegated correction of previous year paper solutions.
- Collaborated with the Office of Student and Alumni Affairs to organise the 'Peer Tutoring Programme'.

Institution of Engineers, Singapore – NTU Student Chapter

Oct 2022 – Apr 2023

Infotech Project Manager

- Designed and led development of club website using React and Bootstrap.
- Collaborated with IEEE-NTU to organise 'Codewars' event, attracting 100+ students to learn basics of coding.

CERTIFICATIONS

JPMorgan Chase & Co. | Software Engineering Virtual Experience

Jun 2022 – Jul 2022

SKILLS

Programming Languages: C/C++, Python, Java, SQL, HTML/CSS, JavaScript, TypeScript

Cloud: Azure, AWS, Google Cloud, Firebase, Digital Ocean.

Data Science & Analytics: Python (numPy, pandas, seaborn, matplotlib), PowerBI, Dataiku

Databases: NoSQL (MongoDB, CosmosDB, DynamoDB), SQL (Postgres, MySQL).

Project Management: Github, Tortoise SVN, Trello.

Languages: English (Proficient) and Hindi (Native).