



MICHAEL HOON YONG HAU

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EDUCATION

Singapore University of Technology and Design

Master of Engineering (Research)

May 2026 – Dec. 2026

(Expected)

Singapore University of Technology and Design

Bachelor of Engineering, Engineering Systems and Design, Minor in Computer Science

Sep. 2022 – May 2026

Current GPA: 4.83/5.0

University of California, Berkeley

Summer Exchange

Jun. 2023 – Aug. 2023

Berkeley, CA

COURSEWORK / CERTIFICATIONS

- Machine Learning
- Natural Language Processing
- Data Science / Business Analytics
- Deep Learning
- Applied Econometrics
- Mathematical Modelling

SKILLS

Languages: Python, R, SQL, Julia, \LaTeX

Tools: Git/GitHub, Docker, Streamlit, DBeaver, VS Code, Vim

Libraries/Frameworks: LangChain, Pandas, NumPy, Plotly, OpenAI API, tidyverse (R)

PROJECTS

RAG-Based LLM Applications | *Python, LangChain*

Dec. 2023 – Present

- Currently experimenting with Retrieval Augmented Generation (RAG) applications with open-source Large Language Models (LLMs).
- Exploring inference with open-source LLMs, model Fine-Tuning with Amazon Sagemaker Jumpstart, and model testing & evaluation via LangSmith.

LangChain PDF Querying System | *Python, LangChain, Streamlit, Docker*

Sep. 2023 – Nov. 2023

- Developed a Querying System Chatbot via LangChain, for Question-Answering (QA) over PDFs.
- Feasible use cases include summarisation of large PDF articles in academia, and document management systems.
- Application hosted and deployed on Streamlit webapp, containerised using Docker.

EXPERIENCE

Undergraduate Research Assistant

Sep. 2022 – Jan. 2023

Aviation Studies Institute

Singapore

- Extracted key business insights for industry partner, International Air Transport Association (IATA), via Exploratory Data Analysis in R, SQL, and Python. Visualised data via Plotly and R.
- Developed correlation models for predictive analysis of internal air cargo demand data.
- Wrote an internal paper discussing findings, and presented to IATA and the Civil Aviation Authority of Singapore.

Undergraduate Research Assistant

Oct. 2022 – Dec. 2023

Singapore University of Technology and Design

Singapore

- Explored computational modelling of materials via the Particle-In-Cell (PIC) and Finite-Difference-Time-Domain (FDTD) methods, and conducted qualitative analysis on resulting spectra.
- Research showed similar scattering patterns and Lorentzian behaviour, and will contribute to further studies in simulating optoelectronic devices.
- Worked with open-source code developed in Python using the MEEP library, and PIC algorithm developed via Epoch.

EXTRACURRICULAR

SUTD Organisation of Autonomous Robotics

Mar. 2023 – Feb. 2024

Secretary

Singapore University of Technology and Design

- Organised a school-wide robotics competition (RoboClash 2024), attracting over 80 participants and 15 teams.
- Collaborated with school administration on all administrative matters related to the club, conducted school-wide workshops to inspire robotics technology among students.