# Dang Trung Hieu

MOE Tuition Grant Holder - 90541446 - HIEU003@e.ntu.edu.sg - https://dangtrunghieu.vercel.app

#### **EDUCATION**

## Nanyang Technological University

2021 - 2025

# $Bachelor's\ Degree-Environmental\ Engineering-Honours\ Merit$

- MH2814 Probability and Statistics: A+
- MH1812 Discrete Mathematics: A

#### Certificates

• MIT IDSS Data Science & Machine Learning Course Online

Jan 2025 - March 2025

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• Google Advanced Data Analytics Professional Certificate

Jun 2024

#### SKILLS

- Languages: Python, SQL, Scala, TypeScript, JavaScript, HTML, Haskell
- Frameworks: Pandas, PyTorch, Tensorflow, FastAPI, Next.js, Node.js, React.js, Spark, Hadoop
- Tools: Power BI, Tableau, MS Office, Git, Bash

#### WORK EXPERIENCE

#### Singapore-MIT Alliance for Research and Technology Centre

Singapore

The only research centre outside the U.S. of MIT, ranked #1 university in the QS Rankings

#### **Machine Learning Engineer Intern**

May 2024 - Aug 2024

- Built a Computer Vision GAN model with **PyTorch**, with a maximum downscaling (deblurring) factor of 64
- Extracted and preprocessed 4 months of **NetCDF4** data for model training
- Attained a mean absolute error (MAE) of 0.45°C, surpassing the 2°C MAE target
- Produced 3 comprehensive reports and presentations summarizing results and recommendations
- Offered a part-time work opportunity

### **Data Analyst Intern | PUBLICATION**

Jan 2024 - May 2024

- Preprocessed large datasets collected over 8 months with Python Pandas
- Performed statistical analysis to identify 10+ key metrics and created 15 visualizations for the research paper
- Successful publication to the Urban Climate Journal
- Offered an extended summer internship opportunity

# Google Summer of Code 2023: http4s Ember WebSocket Client | LINK

Remote

Project proposed by Scala Center

# **Student Developer**

May 2023 - Aug 2023

- Created a full WebSocket implementation for http4s Ember—one of the most popular **Scala** web frameworks
- Worked independently, successfully completed the project in 3 months
- Gave a project presentation to more than 100 attendees at the Northeast Scala Symposium

#### **LEADERSHIP ROLES**

### NTU MLDA Club Project, LLM Team Lead

Aug 2024 - Present

- Develop an AI system to automate exam grading, potentially reducing grading time by up to 80%
- · Led a team of 5 in designing an exam grading workflow based on rubrics, achieving 80% accuracy

#### **PROJECTS**

### Visualizing IMDB Ratings of movie series over time

Charts displaying TV series rating trends across all seasons, based on over 700,000 IMDb episode ratings.

1. SquerryDB: Full-end web application built with PostgreSQL, GraphQL, and Next.js | LINK

Jan 2025

- Performed big data preprocessing using Pandas, with largest dataset containing 11 million rows
- Backend: Set up PostgreSQL database, built GraphQL API with Strawberry, integrated with FastAPI backend
- <u>Frontend</u>: Implemented using Next.js and **React.js** through **TypeScript** programming, designed interactive chart with **Recharts** and **Shadon**
- Deployed the database, GraphQL backend, and front-end application on Railway

#### 2. Tableau Dashboard | LINK

**Jul 2024** 

- Performed big data preprocessing with Pandas, with largest dataset containing 11 million rows
- Conducted data modelling to relate data tables and launched a Tableau Dashboard

## Personal Blog: 6-year Spotify data Analysis | LINK

Oct 2024

- Built the portfolio website with frontend **React.js** and **JavaScript**
- Collected and preprocessed 6-year personal Spotify Data with **Pandas**
- Discovered underlying listening activity trends and created 10 unique visualizations with **Plotly JavaScript**