

Dang Trung Hieu

MOE Tuition Grant Holder | 90541446 | contact.hieudang@gmail.com | [Website](#) | [LinkedIn](#) | [GitHub](#)

EDUCATION

Nanyang Technological University

Bachelor's Degree – Environmental Engineering – Honours Merit

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

Online Courses

MIT IDSS Data Science & Machine Learning Course: 13 in-depth DS & ML topics | [CERTIFICATE](#)

- Data Science & Statistics: Probability, Hypothesis Testing
- Predictive Modelling: Regression, Classification, Clustering, Graphical Models, Deep Learning
- 3 Completed projects: Customer Segmentation, Potential Buyer Prediction, Product Recommendation System

SKILLS

- **Programming Languages:** Python, R, SQL, Scala, TypeScript, JavaScript, HTML, Haskell
- **Frameworks:** Seaborn, Plotly, Pandas, PyTorch, Tensorflow, FastAPI, Next.js, Node.js, React.js, Spark, Hadoop
- **Tools:** Google Sheets, Power BI, Tableau, Microsoft Excel, Microsoft PowerPoint, Git, Bash

EXPERIENCE

Singapore–MIT Alliance for Research and Technology Centre

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

- Developed a Computer Vision GAN model with PyTorch, with a downscaling (deblurring) factor of 64
- Extracted and prepared 4 months of NetCDF4 data
- Achieved a 0.45°C Mean Absolute Error (MAE), outperforming the 2°C MAE target
- Delivered comprehensive reports with insights and recommendations

Data Analyst Intern | [PUBLICATION](#)

Jan 2024 – May 2024

- Performed data cleaning for large-scale environmental data collected over 8 months using Python Pandas
- Conducted statistical analysis, extracted 10+ key metrics, and created 15 visualizations for the paper
- Contributed to a successful publication to the Urban Climate Journal
- Secured an extended internship based on strong technical contributions

Scala Center

Software Developer | [SAMPLE](#)

May 2023 – Aug 2023

- Google Summer of Code 2023: http4s Ember WebSocket Client
- Implemented a full WebSocket API for http4s Ember—one of the most popular Scala web frameworks
- Empowered faster data transport and reduced CPU usage up to 30%
- Achieved all project deliverables within 3 months, presented project at the Northeast Scala Symposium

AWARDS

NTU PEAK Leadership: Sustainability – 1st Place | [MEDIA](#)

Jan 2025 – Mar 2025

1-month Business Case Competition on Sustainability, partnered with 6 leading companies, with 11 selected teams

- Collaborated with SATS to reduce single-use plastic waste in large-scale internal operation
- Analyzed data from sustainability reports and conducted on-site assessments to identify process deficiencies
- Proposed 3 practical solutions to increase plastic recycling by 3 times and reduce plastic use by 50%
- Delivered final presentation to stakeholders and industry professionals

PROJECTS

FYP: Applied Machine Learning in Membrane Fouling | [LINK](#)

Aug 2024 – Present

ML models predicting water flux decline, enhancing system monitoring in water treatment plants

- Collaborated with NTU Professor and PhD Graduate from MIT
- Collected and processed extensive data from 30 research papers
- Built models relating all influence factors: water composition, membrane properties, and operation conditions
- Developed and compared 4 forecasting models, achieving best MAE of 0.011
- Delivered project presentation and compiled a 50-page final report

Visualizing Movie Series Ratings Over Time

Interactive charts displaying episode rating trends from IMDb across all seasons for over 20,000 TV series

1. SquerryDB: Full-end web application | [LINK](#)

Jan 2025

- Filtered Big Data (11 million entries) using Pandas to enable fast data handling
- Backend: PostgreSQL database, GraphQL API using Strawberry, FastAPI backend integration
- Frontend: Responsive design with Next.js, React, TypeScript, interactive chart with Recharts and Shadcn
- Deployed the database and full-end application on Railway, ensuring end-to-end functionality

2. imdb-tableau: Interactive Tableau Dashboard | [LINK](#)

- Conducted data modelling to relate data tables and launched an interactive Tableau Dashboard

Blog: Analyzing 6 Years of My Spotify Streaming History | [LINK](#)

Oct 2024

- Built a responsive portfolio website with React and Javascript
- Collected 6-year of JSON data and extracted key insights using Pandas
- Created 10 unique visualizations showcasing underlying listening activities