

Dang Trung Hieu

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EDUCATION

Nanyang Technological University

Bachelor of Environmental Engineering

Singapore

Aug 2021 – May 2025

Data Analytics Certificate

Google Data Analytics Professional Certificate

Remote, Google

Jun 2024

Google Advanced Data Analytics Professional Certificate

Jun 2024

EXPERIENCE

Machine Learning Engineer Intern

Singapore–MIT Alliance for Research and Technology

ML model for temperature downscaling (PyTorch)

Apr 2024 – Aug 2024

- Developed a GAN model with a maximum downscaling factor of 64
- Downscaling is a technique to convert images to higher resolution (e.g., converting temperature data from a map of 1x1 km grids to 200x200 m grids, which corresponds to a factor of 5)
- Applied transfer learning from a pretrained model
- Applied data augmentation and implemented gradient clipping during training. Attained a mean absolute error (MAE) of 0.45°C, which overachieved the target of 2°C MAE

Data Analyst Intern

Singapore–MIT Alliance for Research and Technology

Cooling Singapore 2.0 Measurement Campaign

Jan 2024 – Apr 2024

- Conducted large, multi-table data preprocessing, statistical analysis, and data visualization
- Published paper in Urban Climate Journal: Impact of rainfall on air temperature, humidity and thermal comfort in tropical urban parks

Student Developer

Remote, Scala Center

Google Summer of Code: http4s Ember WebSocket Client

May 2023 – Aug 2023

- Developed a full implementation of a WebSocket Client for http4s Ember—one of the most popular web frameworks in Scala
- Gave a talk on the project at the Northeast Scala Symposium

Volunteer Software Developer

Remote, Bank Green

Open-source Contribution

Jun 2023

- Contributed bug fixes and improvements to the bank.green website

PROJECTS

imdb-tableau

2024 - Present

Tableau dashboard displaying episodes ratings over time

- Conducted multi-table data processing with Pandas
- Built visualization dashboard with Tableau

imdb-graphql

2022 - 2023

Charts displaying episodes ratings over time

- A full-end web application built with GraphQL, Flask, and ReactJS
- Contributed to the GraphQL backend built with Flask and the GraphQL database
- Developed the frontend application with React and Highcharts

COVID-19 Data Analysis and Predictive Modeling

2022

Analysis of COVID-19 mortality in the U.S.

- Conducted exploratory data analysis and visualization of COVID-19 related deaths
- Built ML models to predict the number of ICU beds and ventilators needed 1 day in advance

SKILLS

Languages: Python, SQL (Postgres), JavaScript, HTML, Scala, Haskell

Frameworks: React, Node.js, Flask, FastAPI

Tools: Tableau, PowerBI, Git, Bash, Linux