

Dang Trung Hieu

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EDUCATION

Nanyang Technological University

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
- Google Advanced Data Analytics Professional Certificate Jun 2024

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
- **Skills:** Presentation, Report Writing, Interpersonal Communication, Analytical Thinking

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

- Developed a Computer Vision GAN model with PyTorch, with a maximum 64x downscaling (deblurring) factor
- Extracted and preprocessed 4 months of NetCDF4 data for model training
- Attained a 0.45°C Mean Absolute Error (MAE), significantly outperforming the 2°C MAE target
- Delivered 3 comprehensive reports and presentations, providing insights and recommendations
- Offered a part-time work opportunity

Data Analyst Intern | PUBLICATION

Jan 2024 – May 2024

- Performed data cleaning for large-scale datasets 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 ([Link](#))
- Secured an extended internship opportunity based on strong technical contributions

Scala Center

Remote

Software Developer

May 2023 – Aug 2023

- Google Summer of Code 2023: http4s Ember WebSocket Client ([Link](#))
- Created a full WebSocket implementation for http4s Ember—one of the most popular Scala web frameworks
- Spearheaded and delivered the project within 3 months, achieving all preset targets
- Presented project outcomes to 150+ attendees at the Northeast Scala Symposium ([Link](#))

LEADERSHIP

NTU MLDA Club Project, LLM Team Lead

Aug 2024 – Present

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

PROJECTS

NTU Peak Sustainability: Reduce Single-use Plastic at SATs

Jan 2025 - Present

Consultant for SATs, the world's leading providers of air cargo handling and airline catering services

- Conducted on-site assessments to analyze daily plastic usage, identified 3+ key areas to minimize plastic waste
- Develop a rapid and scalable solution, balancing cost efficiency and operational feasibility
- Deliver a final presentation to 200+ attendees, including industry professionals and executives

Visualizing IMDb Rating Trends for TV Series

Charts displaying TV series rating trends across all seasons, including 20000+ series and 700,000+ episodes

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

Jan 2025

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

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

Jul 2024

- Filtered Big Data (11 million entries) using Pandas to enable efficient data handling ([Link](#))
- Conducted data modelling to relate data tables and launched an interactive Tableau Dashboard ([Link](#))

Personal Blog: Analyzing 6 Years of My Spotify Data | [LINK](#)

Oct 2024

- Built a responsive portfolio website with React and JavaScript ([Link](#))
- Collected and transformed 6-year JSON data with Pandas ([Link](#))
- Uncovered listening activity trends and created 10 unique visualizations with Plotly for the blog post