Dang Trung Hieu

MOE Tuition Grant Holder - 90541446 – contact.hieudang@gmail.com – https://dangtrunghieu.vercel.app

EDUCATION

Nanyang Technological University — **Singapore**
Bachelor's Degree – Environmental Engineering – Honours Merit — 2021 – 2025
- 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 practical 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
- Preprocessed large-scale datasets (11 million rows) using Pandas to enable efficient data handling
- Backend: Set up PostgreSQL database, built GraphQL API with Strawberry, integrated into FastAPI backend
- Frontend: Built a responsive frontend using Next.js, React, and TypeScript, visualizing data with interactive charts via Recharts and Shadcn
- Deployed the database, backend, and frontend application on Railway**,** ensuring end-to-end functionality

2. **imdb-tableau:** Tableau Dashboard | **LINK** — Jul 2024
- Preprocessed large-scale datasets (up to 11 million rows) using Pandas to enable efficient data handling
- 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 preprocessed 6-year personal Spotify Data with Pandas
- Uncovered listening activity trends and created 10 unique visualizations with Plotly (Link)