Dang Trung Hieu

MOE Tuition Grant Holder - 90541446 – contact.hieudang@gmail.com – 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
- 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**: Power BI, Tableau, Excel, PowerPoint, Git, Bash
- **Skills:** Presentation, Report Writing, Interpersonal Communication, Analytical Thinking

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
- 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), **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 performance and technical contributions

Google Summer of Code 2023: http4s Ember WebSocket Client (Scala Center) | LINK   Remote
Software Developer   May 2023 – Aug 2023
- Created a full WebSocket implementation for http4s Ember—one of the most popular **Scala** web frameworks
- Led and delivered the project within 3 months with guidance from mentors
- Presented project outcomes a to **150+ attendees** at the Northeast Scala Symposium (Link)

LEADERSHIP ROLES

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 Episode Rating Trends of TV Series
Charts displaying TV series rating trends across all seasons, based on over 700,000 IMDb episode ratings.
1. **SquerryDB:** Full-end web application | **LINK**   Jan 2025
- Preprocessed large-scale datasets (up to **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.js**, 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. **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**

Personal Blog: Analyzing my music taste through 6-year Spotify Data | LINK   Oct 2024
- Built the portfolio website with frontend **React.js** and **JavaScript** (Link)
- Collected and preprocessed **6-year** personal Spotify Data with **Pandas**
- Uncovered listening activity trends and created **10 unique visualizations** with **Plotly** for the blog (Link)