Dang Trung Hieu

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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   Jan 2025 – March 2025
- Microsoft Power BI Data Analyst Specialization   Sep 2024
- 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 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 (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 50+ attendees at the Northeast Scala Symposium (Link)

AWARDS

1st Place – 17th NTU Peak Leadership Development Programme: Sustainability   Jan 2025 – Mar 2025
Business Case Competition on Sustainability partnered with PwC, SATS, Seatrium, …
- Champion (out of 11 selected teams) for the NTU Peak Best Ideation Award
- Consulted for SATS, the world's leading provider of air catering services, in reducing single-use plastic
- Conducted on-site assessments and analyzed sustainability report data to identify process deficiencies
- Introduced 3 practical solutions to improve plastic recycling by 3 times and reduce plastic use by 50% in SATS internal operation
- Delivered final presentation to 100+ attendees, including stakeholders and industry professionals

PROJECTS

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