

Hi, my name is Danh Phan. Applying Machine learning and Big data analysis to derive actionable insights is my passion. I am a Data Scientist at the Pacific service team, Johnson Controls Australia. I am also a researcher working on various machine learning methods for intelligent transport systems at Monash University. I have contributed to open-source projects like [PyMC](#), a popular probabilistic programming framework in Python.

EXPERIENCE

Data Scientist

Apr 2022 - Present

Data Analyst

Oct 2021 - Mar 2022

*Johnson Controls Australia**Melbourne, Australia*

Develop Dynamic Pricing Models; Margin and Conversion rate optimisation; Customer churn modelling; Perform data analysis and build various KPIs and BI dashboards; Improve data quality, data governance and data security; Build and deploy End to End ML applications on Microsoft Azure.

Open-source software developer

Jan 2022 - Present

*PyMC contributor**PyMC Github*

Develop Python functions, classes, and docker images for open-source projects that focus on Bayesian Modelling and Probabilistic Machine Learning, including packages like [PyMC](#), [Aesara](#), and [PyMC-Examples](#).

Data Science Associate Instructor

Jul 2021 - Present

*Data Fluency, Monash University**Melbourne, Australia*

Prepare technical materials; Teach [hands-on workshops](#) on machine learning, data analysis with Python, and data visualisation (Power BI) for professional staff and researchers at Monash University; Lead a group of four instructors.

Data Analyst Intern

Aug 2018 - Nov 2018

*Data Department, Domain Group**Sydney, Australia*

Developed customer clustering models for marketing and sales teams; Performed data analysis using SQL, ETL, Python; Building various dashboards with Tableau.

Casual Teaching Academic

Feb 2018 - Nov 2018

*Computing Department, Macquarie University**Sydney, Australia*

Tutored and consulted students on System Integration, and IT Systems & Projects.

IT Specialist

Sep 2013 - Oct 2016

*Dept. of Information and Communications of NgheAn**Vietnam*

Developed and maintained web applications and SQL databases.

RECENT PROJECTS (please check other projects at <https://github.com/danhphan>)

[1] **Aussie Social Sentiment Analysis** (<https://aussie-sentiments.herokuapp.com>)

This project collects data from Twitter's APIs and build sentiment analysis models.

[2] **Advanced Python features** (<https://danhphan.github.io/explore>)

This project explores and examines various python packages and features.

[3] **Melbournian Daily Activities** (<https://melbourn-city.herokuapp.com>)

This project visualises the daily activities of Melbournians in different areas.

EDUCATION

PhD Candidate on Intelligent Transport Systems

Institute of Transport Studies, Monash University

Supervisors: Prof. [Hai Vu](#), Prof. [Graham Currie](#)

Topic: Machine learning for transport systems; Activity-based Agent-based models.

Feb 2020 - Present

Melbourne, Australia

Master of Information Technology

Macquarie University

Final internship: Data Analyst at Domain Group

Core units: Machine Learning, Data Mining, Information Systems, Security Management

GPA 6.733/7 (4.0/4.0); Top one postgraduate student; **Academic Excellence Award**

Feb 2017 - Dec 2018

Sydney, Australia

Bachelor of Information Technology

Hanoi University of Science and Technology (HUST)

Core units: Probability and Statistics, Algebra and Analytic, Numerical methods, Discrete Mathematics, Artificial Intelligence, Data structures and algorithms, Software Engineering.

GPA 8.3/10; High Distinction; Faculty rank 1/39

Aug 2005 - Jul 2010

Hanoi, Vietnam

PUBLICATIONS

[1] Danh T. Phan, Hai L. Vu, Graham Currie. **AttentionChoice: Discrete choice modelling supported by a deep learning attention mechanism.** *The Transportation Research Board (TRB)*, 2022, *under review*.

[2] Danh T. Phan, Hai L. Vu, Eric J. Miller. **A New Approach to Improve Destination Choice by Ranking Personal Preferences.** *Transportation Research Part C: Emerging Technologies*, 2022. <https://www.sciencedirect.com/science/article/pii/S0968090X22002406>

[3] Danh T. Phan, Hai L. Vu. **Activity pattern generation incorporating deep learning for transport demand models.** 2021. <https://arxiv.org/abs/2104.02278>

[4] Danh T. Phan. **Smart Mobility Improvement: Classifying Commuter Satisfaction in Sydney, Australia.** In *Proceedings of the 3rd International Conference on Machine Learning and Soft Computing (ICMLSC 2019)*. <https://dl.acm.org/citation.cfm?id=3311021>

[5] Danh T. Phan. **Australia Housing Price Prediction using Machine Learning Algorithms: The Case of Melbourne City, Australia.** *The 2018 International Conference on Machine Learning and Data Engineering*. <https://ieeexplore.ieee.org/document/8614000>

CORE SKILLS

Technical: Python, R, Java, C++, C#, .NET, SQL, ETL, Data Factory, Data Warehouse

Data analysis: Numpy, Jax, Pandas, GeoPandas, Scipy, NLTK, Dask, PySpark

Machine learning: Scikit-learn, Pytorch, Spacy, Statsmodels, PyMC, Aesara

Other tools: MySql, Sql Server, Docker, CI/CD, DevOps, Tableau, Power BI

Environments: Linux, AWS, Microsoft Azure, Google Cloud, Salesforce, ServiceMax

CERTIFICATES

- [Microsoft Certified: Azure Data Scientist Associate](#) - Microsoft Sep 2022
- [Bayesian Data Analysis in Python](#) - DataCamp Nov 2021
- [Deep Learning Specialization](#) - Coursera Sep 2021
- [Scalable Machine Learning with Apache Spark](#) - Databricks Jul 2021
- [Discrete Choice Analysis: Predicting Market Demand](#) - MIT Jun 2021