

TRANG NGUYEN

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SUMMARY

I am a final year Computer Science PhD student with research experience in Machine Learning, Time Series/Sequential Learning, and Explainable AI. Experienced building AI products for FinTech and Transportation companies in US and Asia. A versatile team player and problem solver with passion for continuous learning and development.

Work Authorization: US Green Card holder.

EDUCATION

University College Dublin, Ireland 09/2019 - 08/2024
Ph.D., Computer Science (expected)

- **Research areas:** Machine Learning, Time Series & Sequential, Automated Reasoning, Explainable AI, Robustness System

Arizona State University, Tempe, AZ 08/2016 - 05/2018
Dual Degree M.B.A. and M.Sc., Business Analytics

- **Main Courses:** Data Structure & Algorithms, Statistics, Database Systems, Data Mining, Marketing Analytics

Nanyang Technological University, Singapore 08/2008 - 05/2012
B.Sc., Maritime Studies (Commerce and International Trade)

TECHNICAL SKILLS

Programming	Python, R	Database	MySQL, PostgreSQL
Big Data	PySpark 2.1	Software	Tableau, Redash, L ^A T _E X
Packages	TensorFlow, Keras, PyTorch, Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, Git		

EXPERIENCE

SFI Centre for Research Training in Machine Learning, Ireland 01/2020 - present
Doctoral Student

- **Algorithm Trust, Safety & Fairness:** Proposed a framework to quantitatively evaluate state-of-the-art methods explaining black-box algorithms; Open-source the software for research community.
- **Automated Reasoning:** Proposed a new, reliable, optimized method to explain black-box classifiers for sequential & time series data, enabling automatic knowledge discovery in data.
- **Scalable & High Performance Time Series/Sequential Learner:** Researched on methodology to make sequential classification faster while maintaining performance of highest available method.
- **Teaching Assistant:** Data Analytics, Machine Learning, Big Data Programming, Relational Database & SQL Programming

Trusting Social Ltd., Vietnam 08/2018 - 06/2019
Data Scientist

- **Credit Score Modeling using Mobile Data:** Researched and Optimized performance of Credit Score model for 60+ million of unbanked customers using Python and PySpark; Proposed and Engineered new features; Tuned model hyperparameters, achieving 30% increase in Gini of back-testing datasets.
- **Data Quality Monitoring:** Automated quality monitoring workflow on 100+ TB of data with real-time dashboard using Redash and mySQL on AWS, improving reliability and saving 10+ hours weekly for analytics team.

FedEx Corporation, Memphis, TN 01/2018-05/2018
Data Science Intern (MSc Business Analytics Capstone)

- **Data Product Conceptualization:** Proposed the idea of combining machine learning techniques and time series analysis to predict transportation need, enabling time savings and reducing manual budgeting efforts.
- **Building production-ready data product:** Gathered, cleaned, analyzed, engineered features from multiple sources, Built predictive model, achieving Mean Absolute Percent Error (MAPE) of under 5% on 3-month data test data.

Shun Shing Group Intl., Singapore 09/2012 - 06/2016
Senior Pricing Analyst, Bulk Commodity Transportation

- **Features Analysis & Hypothesis testing:** Designed experiments to diagnose features driving contract pricing; Performed testing of independent variables to confirm statistical significance.
- **Leadership:** Led a market research analyst team to analyze, predict, and offer future prices to commodity traders.

PUBLICATIONS

- **Nguyen T.T.**, Le Nguyen T., Ifrim G. (2024) *Robust explainer recommendation for time series classification* In: Data Mining and Knowledge Discovery journal (2024). <https://doi.org/10.1007/s10618-024-01045-8>
- Kathirgamanathan B., **Nguyen T.T.**, Caufield B., Ifrim G., Cunningham P. (2023) *Explaining Fatigue in Runners using Time Series Analysis on Wearable Sensor Data*. In: ICML 3rd Workshop on Interpretable Machine Learning in Healthcare (IMLH). <https://openreview.net/pdf?id=9c0lAonDNP>
- Serramazza D., **Nguyen T.T.**, Le Nguyen T., Ifrim G. (2023). *Evaluating Explanation Methods for Multivariate Time Series Classification*. In: ECML 7th Workshop on Advanced Analytics and Learning on Temporal Data. https://link.springer.com/chapter/10.1007/978-3-031-49896-1_11
- Agarwal S.*, **Nguyen T.T.***, Le Nguyen T., Ifrim G. (2021) *Ranking by Aggregating Referees: Evaluating the Informativeness of Explanation Methods for Time Series Classification*. In: ECML 6th Workshop on Advanced Analytics and Learning on Temporal Data. Published in conference proceedings and part of Lecture Notes in Computer Science, vol 13114 (Springer, Cham). https://doi.org/10.1007/978-3-030-91445-5_1
- **Nguyen T.T.**, Le Nguyen T., Ifrim G. (2020) *A Model-Agnostic Approach to Quantifying the Informativeness of Explanation Methods for Time Series Classification*. In: ECML 5th Workshop on Advanced Analytics and Learning on Temporal Data. Published in conference proceedings and part of Lecture Notes in Computer Science, vol 12588 (Springer, Cham). https://doi.org/10.1007/978-3-030-65742-0_6