

# Tan Dai Ngo

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## Technical Skills

- **Programming & Databases:** Python, SQL, R, MATLAB, Cypher, Java, MySQL, MongoDB, Cassandra, Neo4j
- **Frameworks & Tools:** Power BI, Excel, Jupyter, Pandas, Numpy, SciPy, StatsModel, Scikit-learn, TensorFlow, Keras, LightGBM, XGBoost, CatBoost, Plotly, Matplotlib, Seaborn, AWS (EC2, S3, RDS), Docker, Jenkins

## Education

<b>Master of Engineering in Applied Data Science</b>   University of Victoria	Sep 2025 - Present
<b>Master of Science in Computer Science</b>   University of Chicago	Sep 2020 - Mar 2022
<b>Bachelor of Science in Economics</b>   University of Washington	Sep 2015 - Aug 2019

## Work Experience

<b>Data Analyst</b>   Linh Dan Hotel	<i>Ho Chi Minh City, Vietnam</i>   Apr 2023 - Aug 2025
• Built SQL ETL pipelines (20+ daily queries) and designed ERD-modeled schemas to integrate and clean 1,000+ operational and financial records into analysis-ready datasets.	
• Automated reporting workflows with Python and Power BI, reducing manual reporting time by 30% and enabling structured monthly/quarterly reviews.	
• Performed cost-benefit analyses and built Python analytics dashboards (Matplotlib, Pandas) to guide pricing strategy and optimize operational efficiency.	
<b>Computer Science Teacher</b>   APU American International School	<i>Da Nang City, Vietnam</i>   Aug 2024 - Dec 2024
• Instructed 50+ high school and college students in python programming and web development via practical lessons.	
• Designed coding projects that apply real-world software engineering principles such as top-down design and OOP.	
• Mentored students in debugging and code optimization, fostering analytical reasoning and critical thinking skills.	

<b>Software Developer</b>   T-Mobile (BeaconFire Inc.)	<i>Bellevue, WA, USA</i>   Jun 2022 - Feb 2023
• Collaborated with a team of 5 to develop enterprise microservices for the Roaming Business System (Spring Boot, Java Stream API), integrating with Jenkins CI/CD for deployments and Splunk for log monitoring.	
• Designed and optimized Cassandra database schemas for partner and workflow management microservices, handling 100k+ records while maintaining query execution time under 3 seconds.	
• Automated weekly reprocessing of 50+ roaming service tests with Kafka pipelines, cutting manual effort by 80%.	

## Projects

<b>Predictive Modeling for Sustainable Fuel Blending</b>	<b>Shell.ai Hackathon 2025</b>
• Identified key component-property relationships through exploratory data analysis of a 65-feature fuel-blend dataset, enabling targeted feature engineering for predictive modeling.	
• Engineered weighted property-based aggregates, cross-component interactions, and log-transformed features to model non-linear blend behaviors across 10 sustainable aviation fuel properties.	
• Developed a stacked Ridge regression ensemble of gradient-boosted decision tree models trained with CatBoost, LightGBM, and XGBoost frameworks, optimized via Optuna hyperparameter tuning, achieving MAPE < 2.58%.	
<b>Employee Attrition Prediction</b>	<b>Google Advanced Data Analytics Capstone Project</b>
• Analyzed a 15,000-row HR dataset to identify drivers of employee attrition, uncovering that low satisfaction, overwork, and tenure patterns strongly correlated with departures.	
• Engineered and evaluated predictive models (logistic regression, decision trees, random forests), achieving 96% test accuracy and 0.94 AUC in predicting attrition risk.	
• Developed dashboards and feature plots to translate model outputs into actionable insights for strategic decisions.	