PHUC HUNG (FELICIA) NGUYEN

Economist / Data Scientist | Causal Inference & Experimentation | Marketplace & Marketing | Can start immediately

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- Economist/Data Scientist and Quantitative Marketing PhD specializing in **causal inference, experimentation, and demand estimation** for marketplaces and digital products.
- Built scalable pipelines and models on large-scale behavioral data (**100K+ auctions with 50M comments, 10M images, 5M+ items, 500M+ GPS pings**) using Python, SQL, Spark and representation learning (text/image embeddings).
- Translate empirical results into decisions across **ranking/feeds, pricing signals, engagement/retention, and long-term value (LTV/CLV)**; prior Technical PM in digital banking (4M+ users).

TECHNICAL SKILLS

Programming: Python (pandas, NumPy, scikit-learn, PyTorch, PyMC, CVXPy, JAX…), SQL, R, Julia, SPSS, STATA.

Data & Engineering: Spark, Airflow, Docker, Git, Linux, DuckDB, BigQuery AWS, Databricks, PowerBI, Tableau, Quarto.

Causal Inference & Econometrics: A/B testing and experiment design, time series, panel models, difference-in-differences (DiD), event study, instrumental variables (IV), regression discontinuity (RD), synthetic control, double/debiased machine learning (DML), causal forest.

ML/Modeling: large language models (LLMs), embeddings (text/image), deep neural network, Graph/Network analytics, recommender systems/ranking, Bayesian methods, natural language processing, optimization, machine learning methods.

EXPERIENCE

PhD Researcher (Causal Inference & Marketplace Modeling)

Emory University - Atlanta, GA (2020-2026)

- Built a causal measurement framework to **estimate long-run effects** of content exposure on session depth, return behavior, and downstream engagement; translated outputs into **LTV-aligned** evaluation metrics (Python/R).
- Estimated causal effects of pricing signals on entry, bidding, and revenue using **double/debiased ML (DML)** with high-dimensional multimodal features **(text embeddings, 5M images, 50M+ comments)** across **100K+ marketplace auctions**; quantified treatment heterogeneity by segment.
- Analyzed a randomized field experiment (content insertion) to decompose feed **position effects** into **session survival vs. conditional engagement**; developed a demand model to value early attention and inform **sequencing/ranking policy**.
- Built a scalable multimodal pipeline (Contrastive Language-Image Pretraining **CLIP + transformers**) to compute differentiation/variety measures at 5M+ item scale; implemented an **instrumental variables (IV) strategy** to estimate nonlinear variety effects and heterogeneity by seller size.

Technical Product Manager, Digital Banking (Analytics & Growth)

Sumitomo Mitsui Financial Group / FE CREDIT - Ho Chi Minh City, Vietnam (2015-2017)

- Owned product analytics for a **4M+ user** mobile banking platform; defined **engagement/retention metrics** and built dashboards for cohort retention and **customer lifetime value (CLV/LTV)** to drive roadmap prioritization.
- Partnered with Data Engineering to standardize transactional and service-request data across systems, improving data quality and reliability for reporting and customer experience analytics.
- Launched an **AI-powered chatbot with 400K+ monthly active users** using behavioral signals for personalization; reduced service costs by 10% while improving customer satisfaction; recognized with MMA Gold Medal (Marketing Innovation, APAC).

Innovation Research Intern

American Family Insurance - Madison, WI (Summer 2018)

- Conducted quantitative analyses for predictive risk assessment and product innovation; delivered market sizing, segmentation, and customer insights supporting venture go/no-go decisions.

EDUCATION

Ph.D. in Quantitative Marketing, Emory University - Atlanta, GA (Expected Spring 2026)

Focus: *causal inference, econometrics, demand estimation, platform economics, customer lifetime value, applied machine learning.*

MBA & M.S. in Business Analytics, University of Wisconsin-Madison - Madison, WI (2020)

B.S. in Economics and Econometrics, Foreign Trade University - Ho Chi Minh City, Vietnam (2015)

SELECTED RESEARCH (CAUSAL INFERENCE & MARKETPLACES)

- Pricing signals and marketplace entry (causal inference; DML; auctions) - Working paper
- Creator earnings and policy enforcement (platform economics; quasi-experimental design) - Under review (with An Nguyen)
- Position effects in content feeds (experimentation; demand estimation; ranking) - Working paper (with D. Schweidel)
- Multimodal variety/uniqueness at scale (CLIP; embeddings; IV) - Under review (with D. Schweidel)

PUBLICATIONS

- Nguyen, An; Nguyen, Felicia Nguyen. "Innovation Cascades: Amazon Headquarters 2's Causal Impact on Local Innovation Activities." *PACIS Proceedings (*2024).

TEACHING (SELECTED)

Instructor (Emory; UW-Madison): Regression Analysis in R; Applied Data Science; Marketing Analytics; Data to Decisions.

CONFERENCE PRESENTATIONS AND PROCEEDINGS

ISMS Marketing Science Conference (2023, 2025); Workshop of Information Systems and Economics (2025); Conference on Artificial Intelligence, Machine Learning, and Business Analytics (2024); Pacific Asia Conference on Information Systems (2024); Emory PhD Symposium (2024).

HONORS & AWARDS

AMA Sheth Consortium Fellow (2024) | Emory Sheth Fellowship (2023) | UW-Madison Alumni Fellowship (2018)

RELEVANT COURSEWORK

Causal Inference, Econometrics (Panel/Time Series), Machine Learning, Deep Neural Network, LLM Agentic System Design, Numerical and Stochastic Optimization, Experimental Design, High Dimensional Statistics, Bayesian Statistics, Natural Language Processing, Network Analysis.