

Simon Dovon Nguyen

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EDUCATION

University of Washington, Seattle

(expected) Jun. 2027

Ph.D. in Statistics. Advised by: Tyler H. McCormick

University of Michigan, Ann Arbor

Apr. 2023

M.S. in Applied Statistics. Advised by: Ben B Hansen and Daniel Almirall

Master's Thesis: Optimal Full Matching Under a New Constraint on the Sharing of Controls

University of California, Irvine

Jun. 2021

B.S. in Mathematics (Honors); B.A. in Economics (Honors); Minor in Statistics

RESEARCH EXPERIENCE

Leveraging Large Language Models for Goals of Care Identification in Palliative Care

Apr. 2024 - Present

- Deployed designed-based supervised learning techniques to optimize the evaluation of LLM predictions in healthcare.
- Applied a novel post-prediction inference correction, significantly refining downstream analyses for improved LLM accuracy.
- Quantified treatment effects in palliative care, addressing challenges of sparse positive outcomes in LLM predictions.

Active Learning Framework to Mitigate Predictive Multiplicity [\[OpenReview\]](#)

Jun. 2024 - Present

- Engineered a sequential decision making pipeline, reducing data collection cost by 12% while enhancing model performance.
- Designed adaptive sampling strategies to intelligently collect data points that minimize error while enhancing model training.
- Innovated a selection metric to account for predictive multiplicity, addressing the Rashomon Effect to ensure robust models.

Optimal Full Matching Under a New Constraint on the Sharing of Controls

Jun. 2021 - Apr. 2023

- Implemented a novel innovation in propensity score matching, reducing the variance of the treatment effect estimate by 9%.
- Conducted a cost-benefit analysis of implementing a life-saving surgical operation that impacts long-term cognitive functions.
- Collaborated and consulted with medical practitioners to communicate the causal effect of intensive care surgery for infants.

Adaptive Intervention Experiment Protocol: Autism Spectrum Disorders (ASD) Application

Jan. 2023 - Aug. 2023

- Designed innovative and statistically rigorous protocols to implement advanced experimental methods in clinical trials.
- Integrated behavioral, linguistic, and neurological tailoring variables to design an optimal dynamic treatment regime of ASD.
- Implemented model-free reinforcement learning methods to tailor optimal interventions for families with ASD infants.

PRESENTATIONS

Neural Information Processing Systems (NeurIPS) [\[Abstract\]](#)

Dec. 2024

Joint Statistical Meetings (JSM)

Aug. 2023

International Chinese Statistical Association Applied Statistics Symposium (ICSA)

Jun. 2023

Michigan Student Symposium for Interdisciplinary Statistical Sciences (MSSIIS)

Mar. 2023

Conference on Statistical Practice (CSP) [\[Abstract\]](#)

Feb. 2023

International Conference on Health Policy Statistics (ICHPS) [\[Abstract\]](#)

Jan. 2023

HONORS

Rackham Science Award

Aug. 2023

Rackham Merit Fellowship

Aug. 2021

Departmental Honors in Mathematics and Economics

Jun. 2021

TEACHING EXPERIENCE

Introduction to Probability and Mathematical Statistics II

Sep. 2024 - Present

Elements of Statistical Methods

Mar. 2024 - Aug. 2024

Statistical Methods in Engineering and Science

Sep. 2023 - Mar. 2024

Introduction to Data Science

Jan. 2023 - Apr. 2023

Introduction to Statistics and Data Analysis

Jan. 2022 - Dec. 2022

SKILLS

R: dplyr, tidyr, ggplot2, plotly, shiny, caret, randomForest, xgboost, glmnet, stats, lme4, MASS

Python: pandas, numpy, matplotlib, seaborn, scikit-learn, xgboost, tensorflow, pytorch, scipy, keras

Other: Shell scripting, Classical Latin