

Dung (Daniel) Ngo

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Education

University of Minnesota-Twin Cities

Ph.D., Computer Science

2019–Present

- Advisors: Professor Steven Wu, Professor Maria Gini

Dickinson College

Bachelor of Science, Computer Science and Mathematics

2015–2019

- Honor Project: Self-Adaptive Chaotic Mutation Operators in Evolutionary Computation
Advisor: Professor Grant Braught

Research Interest

Machine Learning theory, Algorithmic Economics, Incentive-Aware Machine Learning, Incentivized Exploration, Exploration-Exploitation tradeoff, Causal Inference, Bandits Algorithm, Differential Privacy, Strategic Learning, Federated Learning.

Research Project

Incentive-Aware Synthetic Control

Department of Computer Science

University of Minnesota

May 2022–Present

Advisor: Steven Wu, Collaborator: Keegan Harris, Anish Agarwal, Vasilis Syrgkanis

Federated Learning as a Network Effects Game

Department of Computer Science

University of Minnesota

May 2022–May 2023

Advisor: Steven Wu, Collaborator: Shengyuan Hu, Shuran Zheng, Virginia Smith

Incentivizing Combinatorial Bandit Exploration

Department of Computer Science

University of Minnesota

May 2021–May 2022

Advisor: Steven Wu, Collaborator: Xinyan Hu, Aleksandrs Slivkins

Strategic Instrumental Variable Regression

Department of Computer Science

University of Minnesota

May 2020–May 2021

Advisor: Steven Wu, Collaborator: Keegan Harris, Logan Stapleton, Hoda Heidari

Strategic Instrumental Variable Regression

Department of Computer Science

University of Minnesota

May 2020–May 2021

Advisor: Steven Wu, Collaborator: Xinyan Hu, Aleksandrs Slivkins

Improved Regret for Differentially Private Exploration in LinearMDP

Department of Computer Science

University of Minnesota

May 2020–May 2021

Advisor: Steven Wu, Collaborator: Giuseppe Vietri

Incentivizing Exploration with Algorithmic Instruments **University of Minnesota**
Department of Computer Science *August 2019–Present*

Advisor: Professor Steven Wu, Collaborator: Logan Stapleton, Vasilis Syrgkanis

- Investigated incentivizing bandit exploration in the face of confounding variables using recommendations as instrumental variables.

Attentional autoencoder for weighted implicit collaborative filtering **FPT TechInsight**
Summer Internship *May 2018–August 2018*

Collaborator: Hoang-Vu Dang

- Investigated the application of different graph embedding models in social media mining for Facebook users in Vietnam.

Self-adaptive Chaotic Mutation Operators in Evolutionary Computation **Dickinson College**
Department of Mathematics and Computer Science *August 2018–May 2019*

Advisor: Professor Grant Braught

- Defined Genetic Algorithm models using self-adaptive mutation rate, self-adaptive standard deviation, and self-adaptive chaotic map.
- Investigated the effect of using self-adaptive parameters on the balance between exploration and exploitation in the evolution of Genetic Algorithm.
- Explored a new self-adaptive chaotic map that could work with different target optimization problems.

Experience

Department of Computer Science **University of Minnesota**
Research Assistant *2019–Present*

Department of Computer Science **University of Minnesota**
Teaching Assistant *August 2020–December 2020*

Department of Mathematics and Computer Science **Dickinson College**
Teaching Assistant *2015–2019*

Awards & Honors

University of Minnesota GAGE Fellowship

Dean's List

Alpha Lambda Delta Honor Society

Pi Mu Epsilon Honor Society

Upsilon Pi Epsilon Honor Society

Service

Conference Reviewer: CLeaR 2023, ICLR 2024, ICML 2021, ICML 2022, ICML 2023, NeurIPS 2021, NeurIPS 2022, NeurIPS 2023