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RESEARCH INTERESTS

My main research interests lie in the intersection of **Machine Learning** (ML) and **Optimization**. Particularly, I am interested in developing systematic approaches to study facets, including robustness and interpretability, of ML models in real-world environments, where humans and high measurement uncertainties exist in the loop.

EDUCATION

- **M.S. in Data Science** *2021 – 2023 [expected]*
  Hanoi University of Science and Technology
- **Engineer in Computer Science,** GPA: 3.67/4.0, Major GPA: 3.88/4.0 *2016 – 2021*
  Hanoi University of Science and Technology (HUST)
  - Thesis: A Deep Reinforcement Learning based Online Charging Scheme for Target Coverage and Connectivity in WRSNs.

PUBLICATIONS

- **Ngoc Bui**, Duy Nguyen, and Viet Anh Nguyen. "Counterfactual Plans under Distributional Ambiguity" in *International Conference on Learning Representations (ICLR)*, 2022.
- Tuan-Duy Hien Nguyen, **Ngoc Bui**, Duy Nguyen, Man-Chung Yue, and Viet Anh Nguyen. "Robust Bayesian Recourse," in *Conference on Uncertainty in Artificial Intelligence (UAI)*, 2022.
- **Ngoc Bui**, Phi Le Nguyen, Viet Anh Nguyen, and Phan Thuan Do. "A Deep Reinforcement Learning-based Adaptive Charging Policy for WRSNs," in IEEE *International Conference on Mobile Ad-Hoc and Smart Systems (MASS)*, 2022.
- Duy Nguyen, **Ngoc Bui**, and Viet Anh Nguyen. "Distributionally Robust Recourse Action," under review.
- **Ngoc Bui**, Duy Nguyen, Kim-Cuc Nguyen, Man-Chung Yue, and Viet Anh Nguyen. "Covariance-Robust Minimax Probability Machines for Algorithmic Recourse," under review.
- Duy Nguyen, **Ngoc Bui**, and Viet Anh Nguyen. "Feasible Recourse Plan via Diverse Interpolation," under review.

EXPERIENCES

- **Research Resident,** *VinAI Research* *August 2021 - present*
  - Work under the supervision of Dr. Viet Anh Nguyen on robust and trustworthy ML, studying various paradigms of explanation methods for machine learning models and their robustness.
  - Applied Rotation Project: Interactive Tool for 3D Point Cloud Segmentation.
- **Research Assistant,** *Data Science Lab (HUST)* *December 2019 - June 2020*
  - Study the Vietnamese address standardization problem that recognizes and normalizes free-form addresses into a common standard format.
- **AI Research Intern,** *IBM Vietnam* *July 2019 - October 2019*
  - Apply PowerAI Vision to visual inspection problems in the car manufacturing process to detect dirt and dust defects in the car body after painting.

AWARDS & HONORS

- Honorable Mention in INFORMS Undergraduate Operations Research Prize *2022*
- Best Thesis Presentation Award. *2021*
- Winner in ASEAN-India Hackathon. *2021*
- Third prize in Vietnam Olympiad in Informatics. *2016*

OPEN-SOURCE PROJECTS

- **GeneticPython**, *pypi:* geneticpython *2020*
  A simple and friendly Python framework for (multi-objective) genetic-based algorithms.
- **SCOSS**, *pypi:* scoss *2020 – 2021*
  SCoSS (Source Code Similarity System) is an automatic system for determining the similarity of source codes focusing on programming classes and competitive programming contests.

TEACHING

- Applied Algorithms classes (outstanding service), *HUST* *2019 - 2021*
- Coaching high school students preparing for national olympiad contests in informatics. *2016 - 2017*

PROFESSIONAL SERVICES

- Reviewer at AISTATS 2022/2023.