Ngoc Bui

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RESEARCH INTERESTS

My research interests lie at the intersection of **Machine Learning** (ML) and **Optimization** with a focus on the responsible use of machine learning in real-world systems where humans and high measurement uncertainties exist in the loop.

EDUCATION

- **Ph.D. in Computer Science** *2023 − present*
  Yale University

- **M.S. in Data Science** *2021 − 2023*
  Hanoi University of Science and Technology
  - GPA: 3.9/4.0, Major GPA: 4.0/4.0.

- **Engineer in Computer Science** *2016 − 2021*
  Hanoi University of Science and Technology (HUST)
  - GPA: 3.67/4.0, Major GPA: 3.88/4.0.
  - Honors: Excellent ($\approx$ 1st class honors).
  - Thesis: A Deep Reinforcement Learning based Online Charging Scheme for Target Coverage and Connectivity in WRSNs.

PUBLICATIONS

- Duy Nguyen, **Ngoc Bui**, Viet-Anh Nguyen. "Feasible Recourse Plan via Diverse Interpolation". *AISTATS*, 2023.

- Duy Nguyen, **Ngoc Bui**, Viet-Anh Nguyen. "Distributionally Robust Recourse Action". *ICLR*, 2023.

- **Ngoc Bui**, Tam Nguyen, Binh Huynh Thi Thanh, and Trong Vinh Le. "A phenotype-based multi-objective evolutionary algorithm for maximizing lifetime in wireless sensor networks with bounded hop". *Soft Computing*, 2023.

- **Ngoc Bui**, Duy Nguyen, Viet-Anh Nguyen. "Counterfactual Plans under Distributional Ambiguity". *ICLR*, 2022.

- Tuan-Duy Hien Nguyen, **Ngoc Bui**, Duy Nguyen, Man-Chung Yue, Viet Anh Nguyen. "Robust Bayesian Recourse". *UAI*, 2022.

- **Ngoc Bui**, Phi Le Nguyen, Viet Anh Nguyen, Phan Thuan Do. "A Deep Reinforcement Learning-based Adaptive Charging Policy for WRSNs". IEEE *MASS*. 2022.

- **Ngoc Bui** and Viet-Trung Tran. "A Novel Conditional Random Fields Aided Fuzzy Matching in Vietnamese Address Standardization". *SoICT*. 2019.

UNDER REVIEW

- **Ngoc Bui**, Hieu Trung Nguyen, Viet Anh Nguyen, and Rex Ying. "Structure-aware Graph Explainer via Myerson-Taylor Interaction Index". Under review.

- **Ngoc Bui**, Duy Nguyen, Man-Chung Yue, and Viet-Anh Nguyen. "Coverage-Validity-Aware Algorithmic Recourse". Under review.

EXPERIENCES

- **Research Resident** *August 2021 - July 2023*
  Machine Learning group - VinAI Research
  - Work under the supervision of Dr. Viet Anh Nguyen, focusing on robust & trustworthy ML, studying different paradigms of explanation methods for machine learning models and their robustness.
  - Applied Rotation Project: Interactive Tool for 3D Point Cloud Segmentation.

- **Research Assistant** *December 2019 - June 2020*
  Data Science Lab - HUST
  - Study the Vietnamese address standardization problem that recognizes and normalizes free-form addresses into a common standard format.

- **AI Research Intern** *July 2019 - October 2019*
  IBM Vietnam
  - Applying 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*
- Problem Winner in ASEAN-India Hackathon. *2021*
- Third prize in ACM/ICPC Asia - Ho Chi Minh Regional. *2017*
- Third prize in Vietnam Olympiad in Informatics. *2016*

TEACHING

- Applied Algorithms classes, *HUST* *2019 - 2021*

PROFESSIONAL SERVICES

- Reviewer at AISTATS 2022/2023, FaCCT 2023, UAI 2023, NeuRIPS 2023, ICLR 2024.

- Reviewer at Transactions on Sensor Networks (TOSN).