

Bang Nguyen

Ph.D. Student in Computer Science & Engineering — Seeking Internship Opportunities
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RESEARCH INTEREST

With a strong interest in Natural Language Processing (NLP) and Machine Learning, my research focuses on simulation-based evaluation of NLP applications. I am currently exploring how simulated classroom learning can facilitate the generation and evaluation of AI tutors. My work aims to improve how AI systems can align with human behaviors and values, ensuring that they support users in achieving their goals in a responsible, efficient, and impactful way.

RESEARCH AND INDUSTRIAL EXPERIENCE

University of Notre Dame

Notre Dame, IN

Research Assistant

June 2022 - present

- Problem: Evaluation of Question Generation (QG) under realistic settings.
- Experimental Setup: Systematically expose limitations of traditional text generation metrics in evaluating question quality from end-goal perspectives.
- Methods: (1) Chain-of-Thought Question Answering for general-domain QG evaluation (published in EMNLP Findings 2024); (2) LLM simulations of classroom learning for educational QG evaluation (ongoing).
- Broad Impact: Anticipate user needs and use cases through simulation to improve AI applications in education and user engagement.

The Goodyear Tire & Rubber Company

Wooster, OH

Applied Research Consultant

May 2021 - Jul 2021

- Implemented deep learning models for image segmentation in automated quality control systems, improving accuracy by 48% compared to previous rule-based methods.
- Executed the complete machine learning cycle: data collection, preprocessing, modeling (transfer learning), and evaluation.
- Worked closely with various academic and industry stakeholders to translate research findings into actionable insights.

The College of Wooster

Wooster, OH

Independent Study Thesis

Aug 2021 - May 2022

- Analyzed bias against LGBTQ+ identities in word embeddings. Poster accepted at oSTEM 2021.

EDUCATION

University of Notre Dame

Notre Dame, IN

Ph.D. in Computer Science and Engineering

2022 - present

- Research assistant in Data Mining Lab, advised by Dr. [Meng Jiang](#).
- Teaching assistant in Department of Computer Science & Engineering.
- Relevant Coursework: Natural Language Processing, Advanced Topics in Machine Learning, Human-AI Collaborative Systems, AI for Society, Computational Behavior Modeling, Data Science, Human-centered Computing Research.
- GPA: 4.0/4.0.

The College of Wooster

Wooster, OH

B.A. in Computer Science

Aug 2018 - May 2022

- GPA: 4.0/4.0.
- Minors: Communication Studies, Statistical and Data Sciences.
- Graduated with Summa Cum Laude and Departmental Honors.
- Phi Beta Kappa Member.

PUBLICATIONS

- **Nguyen, B.**, Yu, M., Huang, Y., & Jiang, M. (2024, Feb). Reference-based Metrics Disprove themselves in Question Generation. In *Findings of the Association for Computational Linguistics: EMNLP Findings 2024*.
- Dang, H.*, **Nguyen, B.***, Ziems, N., & Jiang, M. (2023, July). Embedding Mental Health Discourse for Community Recommendation. In *4th Workshop on Computational Approaches to Discourse at ACL 2023* (p. 163).

POSTERS

- **Nguyen, B.** Enhancing Curriculum Design through Large Language Model (LLM) Simulations of Student's Learning Effectiveness. Poster Session Presentation at the *2023 Trustworthy AI Lab for Education Summit*.
- **Nguyen, B.** Queering NLP - A Non-Heteronormative Approach to Quantifying and Investigating Sentiment Bias against LGBTQ+ Identities in Word Embeddings. Poster Session Presentation at the *2021 Out in Science, Technology, Engineering, and Mathematics Conference*.

HONORS AND AWARDS

Critical Digital Engagement Award for Senior Independent Study Thesis Wooster, OH
The College of Wooster Apr 2022

- Thesis Title: Queering MLP - A Non-Heteronormative Approach to Quantifying and Investigating Sentiment Bias against LGBTQ+ Identities in Word Embeddings.

oSTEM Hackathon Winner

Out in STEM Conference Oct 2021

- Collaborated with two teammates to develop a Django web app, AccessMap, for reporting and tracking inaccessible conditions on college campuses.

SERVICE

- **Teaching Assistant at Univesity of Notre Dame:** CSE 40113: Algorithm Analysis - Fall 2022, CSE 60770: Secure Software Engineering - Spring 2023
- **Reviewer:** TKDE'23, KnowledgeNLP-KDD'23, KnowledgeNLP-ACL'24

*Equal contribution