

SON THE NGUYEN

PhD Candidate in Management Information Systems
Department of Information and Decision Sciences
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RESEARCH INTEREST

My core expertise is in AI/ML, focusing on enhancing the capabilities of LLMs and AI agents. Especially, I apply optimization and machine-learning techniques to improve both training and inference data quality, thereby driving better alignment, controllability, and reasoning performance.

EDUCATION

Ph.D. in Management Information Systems December 2026
Department of Information and Decision Sciences
University of Illinois at Chicago, Chicago, IL

M.S. in Business Analytics, 2021 May 2021
Department of Information and Decision Sciences
University of Illinois at Chicago, Chicago, IL

B.S. in Information Systems and Operations Management May 2020
Minoring in Business Analytics
Department of Information Systems and Operations Management
George Mason University, Fairfax, VA

PEER REVIEWED PUBLICATIONS

Nguyen, Son The and Theja Tulabandhula (2026). “MEMETRON: Memetic Response Optimizer for Reward-Guided Post-Decoding Optimization of Large Language Models”. In: *Transactions on Machine Learning Research*. Preliminary version presented at:
- The Workshop on Information Technologies and Systems (WITS 2025).
- National Artificial Intelligence Research Resource Annual Meeting (NAIRR 2026). ISSN: 2835-8856.
URL: <https://openreview.net/forum?id=QRW80Gn3vb>.

Tulabandhula, Theja, Aris M Ouksel, and Son The Nguyen (2023). “Impact of customer loyalty and differing firm costs on price discrimination in an infinite horizon setting”. In: *The Quarterly Review of Economics and Finance* 88. Pp. 344–377. Preliminary version presented at:
- The 32rd Annual Workshop on Information Technologies and Systems (**Best Paper Award Nominee**).

PREPRINTS AND MANUSCRIPTS UNDER REVIEW

Nguyen, Son The, Niranjan Uma Naresh, and Theja Tulabandhula. “CURATRON: Complete and Robust Preference Data for Rigorous Alignment of Large Language Models”. *Submitted to Journal of Machine Learning Research (JMLR)*. 2025. Preliminary version presented at:
- Data Centric AI Workshop (DCAI 2024).
- The Fifth Workshop on Data Science with Human-in-the-Loop (DaSH 2024)
- Bi-directionality in Human-AI Collaborative Systems (BHAICS 2024).

Conferences, Workshops, Symposia, Tech Reports

Nguyen, Son The, Theja Tulabandhula, and Duy Nguyen. “Dynamic Tiling: A Model-Agnostic, Adaptive, Scalable, and Inference-Data-Centric Approach for Efficient and Accurate Small Object Detection”.

The Web Conf: Data Centric AI Workshop. 2024. Preliminary version presented at:

- Nineteenth Symposium on Statistical Challenges in Electronic Commerce Research (SCECR 2023).
- INFORMS Workshop on Data Science (DS 2023).
- Conference on Artificial Intelligence, Machine Learning, and Business Analytics (AIML 2023).

Nguyen, Son The and Theja Tulabandhula. “Generative AI for Business Strategy: Using Foundation Models to Create Business Strategy Tools”. *Statistical Challenges in Electronic Commerce Research*. 2023. Preliminary version presented at:

- The Midwest Machine Learning Symposium (MMLS 2023).
- Conference on Artificial Intelligence, Machine Learning, and Business Analytics (AIML 2023).

Nguyen, Son The, Theja Tulabandhula, and Mary Beth Watson-Manheim. “User Friendly and Adaptable Discriminative AI: Using the Lessons from the Success of LLMs and Image Generation Models”. 2023.

Karra, Saketh Reddy, Son The Nguyen, and Theja Tulabandhula. “Estimating the Personality of White-Box Language Models”. *The 32rd Annual Workshop on Information Technologies and Systems*. 2022. Preliminary version presented at:

- Midwest Machine Learning Symposium (MMLS 2023).

PROFESSIONAL EXPERIENCE

University of Illinois Chicago

Graduate Research Assistant, LLM Alignment & Optimization

2021 – Present

Chicago, IL

- Developed **MEMETRON**, a task-agnostic framework casting LLM decoding as discrete black-box optimization to find higher-reward responses without retraining or gradient access.
- Engineered **CURATRON**, an algorithm that recovers missing comparisons and corrects corrupted ones to complete and robustify LLM preference datasets for more reliable RLHF/DPO alignment.
- Developed and delivered a tutorial on training-free LLM alignment as lead instructor at the NAIRR 2026.
- Secured a 200,000 core-hour **NSF ACCESS** compute grant as project lead, powering the lab’s agentic AI and LLM research.
- Advanced a \$25K **CTRI**-funded effort to translate the lab’s LLM alignment and inference-optimization technology (MEMETRON, CURATRON) toward licensing and commercialization.

Xpressive.AI

AI/Machine Learning Intern, AI Avatars

Summer 2024

Remote

- Accelerated real-time AI avatar generation 4×, cutting latency for smoother, more responsive interaction.
- Improved avatar realism and engagement by refining the underlying machine-learning models.
- Shipped user-facing functionality to create and customize personal AI avatars, boosting personalization and engagement.

TEACHING EXPERIENCE

Tutorials & Workshops

Lead Instructor

- National Artificial Intelligence Research Resource (NAIRR) Annual Meeting, 2026 - Training-Free Alignment of Large Language Models: Making AI Safer and Smarter Without Re-Training (with Theja Tulabandhula and Tommy Cheng).

University of Illinois Chicago

Instructor

- IDS 331 - Business Analysis Using Spreadsheets, Spring 2025, Spring 2026.

Graduate Teaching Assistant

+ *Graduate Level:*

- IDS 575 - Machine Learning Statistics, Spring & Fall 2024, Fall 2025.
- IDS 576 - Deep Learning and Applications, Fall 2021, Fall 2022, Spring 2023.
- IDS 566 - Advanced Text Analytics, Fall 2024.
- IDS 594 - Machine Learning Deployment, Fall 2021, Fall 2022.
- IDS 561 - Analytics for Big Data, Spring & Fall 2022, Spring 2023.

+ *Undergraduate Level:*

- IDS 200 - Intro to Management Information Systems, Spring 2024.
- IDS 355 - Operations Management, Fall 2023.
- IDS 371 - Business Statistics II, Fall 2020, Spring 2021.

GRANTS

NSF Access CI Explore Grant: 200,000-core hours

- Project: Agentic AI and LLMs

- Timeline: 07-26-2024 to 07-25-2027

AWARDS

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| • WITS 2022 Best Paper Nomination | 2022 |
| • University Student Research Challenge - NASA | 2021 |
| • University Doctoral Scholarship - UIC | 2021-2026 |
| • Graduate College Doctoral Fellowship - UIC | 2021-2026 |
| • Outstanding Graduate in ISOM for the Class of 2020 - GMU | 2020 |
| • Excellence in the Major of Information Systems and Operations Management - GMU | 2020 |