

THOMAS HOANG

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EDUCATIONAL BACKGROUND

Denison University, Granville, OH

Graduation: Dec 2025

Bachelor of Arts in Computer Science and Applied Mathematics

Denison Alumni Award (2021), Anderson Science Scholar Award (2022), Crown Fellowship Award (2023), Conrad E Ronneberg Scholarship (2024), John & Mary Alford Scholar (2024), Denison Grants Award (2025).

Recommendations:

--- Prof. Duncan Buell (Chair Emeritus — NCR Chair in Computer Science and Engineering, **University of South Carolina**, Email: buell@acm.org).

--- Prof. Ashwin Lall (Chair — Computer Science and Mathematics, **Denison University**, Email: lalla@denison.edu).

--- Assistant Prof. Truex Stacey (Suzanne B. & Theodore A. Bosler Endowed Faculty Fellowship — Computer Science and Mathematics, **Denison University**, Email: truexs@denison.edu).

PUBLICATION

- **Thomas Hoang.** "GNN: Graph Neural Networks and Large Language Models for Data Discovery" (*GNN, LLM, Data Mining, Data Systems, Data Markets, Data Science/Analytics*)
 - **Thomas Hoang.** "PLOD: Predictive Learning Optimal Data Discovery" (*Data Mining, Database, Data Systems, Data Markets, Data Science/Analytics*)
 - **Thomas Hoang.** "BOD: Blindly Optimal Data Discovery" (*Data Mining, Database, Data Systems, Data Markets*)
 - **Thomas Hoang,** Kahf Hussain, Minh Nguyen, Dagmawi Zerihun, Ashwin Lall. "Non-linear Indistinguishability Query" (*Data Processing, Database, Data Systems, Analytics*)
 - **Thomas Hoang,** Quynh Anh Nguyen, Hoang Long Nguyen. "Public Health in Disaster: Emotional Health and Life Incidents Extraction during Hurricane Harvey" (*Graph, LDA, LLM*)
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SERVICES

- **Reviewer:** Reviewed submissions for the ACM International Conference on Information and Knowledge Management (CIKM), ensuring quality and rigor of research papers presented at conference. (*Big Data, Machine Learning*)
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WORK AND RESEARCH EXPERIENCES

AI Research Scientist

May 2025 - Present

Stealth AI Startup, hybrid

- Developed and deployed AI agents leveraging Graph-based Retrieval-Augmented Generation (Graph RAG) and Large Language Models (LLM) to optimize information retrieval accuracy and efficiency. (*LLM, Graph, RAG*)
- Engineered advanced prompting techniques to enhance retrieval correctness, significantly improving reasoning performance and reliability in knowledge-intensive applications. (*Knowledge representation and reasoning*)

Research Intern

May 2024 - August 2024

Climate Change Health Intelligence lab, Louisville, KY

- Created and implemented BERT-based and LDA models for analyzing over 400,000 tweets during Hurricane Harvey, improving data analysis and machine learning processes. (*NLP, LDA Topic Modeling, BERT model*)
- First-authored two publications, demonstrating expertise in AI/ML and mathematics, and contributing to disaster impact analysis. (*Knowledge Graph, GNN, LLM*)

Data Engineer Intern

May 2023 - August 2023

(Costco Wholesale) FPT Americas, Richardson, TX

- Implemented data manipulation operations, including joins, sub-queries, aggregations, and stored procedures, contributing to improved data processing and analysis. (SQL Server)
- Organized and processed large volumes of data, ensuring data quality, security, and compliance. (Azure Synapse Analytics)

Anderson Undergraduate Researcher

May 2022 - August 2022

Denison University "Non-linear Indistinguishability Query"

- First-authored a publication in designing multi-criteria decision-making algorithms to narrow down a large database of over a million items to select a few optimal items. (Database Query Processing Algorithms)
- Generalized query processing algorithm to a broad set of three functions, including convex, concave, and CES. (Polynomials, Exponential, Logarithmic Functions)
- Approximated user's utility functions to a reasonable degree of precision, using artificial tuples with provable bounds, by asking more questions on interactive phases. (C++, Python)

Research Assistant

May 2020 - May 2021

The University of Tartu, Tartu, Estonia

- Conducted research on the Subordinate And Supervisor Relationship Through the Lens of Guanxi: First Empirical Research in Vietnam, publication, supervised by Dr. Quan Hoang Nguyen Tran. (Economics and Business Administration)
- Fulfilled 100% KPIs with quality and quantity of collecting data from different types of employment, including C-levels, managers, and employees, and making judgments in analysis. (Leadership, Teamwork, Communication)

Software Engineer Intern

October 2020 - March 2021

(FVile), FPT Software, Hanoi, Vietnam

- Designed one complete website with a database and APIs among layers, satisfying integration model, security, and repository design pattern. (NET Framework, C#, OOP, Javascript, HTML5, CSS3, Bootstrap, Fluent API, Design Pattern, unit test, SQL Server)
- Developed one web-based application followed by web service and layered architecture based on MVC. (ASP.NET MVC)

TECHNICAL SKILLS

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- Programming Languages: C/C++ | C# | Python | SQL | R.
 - Database: SQL Server | Azure SQL.
 - Mathematics and Algorithms: Non-linear Algorithms | Advanced Data Structures And Algorithms | Time Series Analysis | Statistical Modeling.
 - Others: LLMs | Prompt Engineering | ASP MVC | .NET framework | Fluent API | LINQ method | Design Pattern | Unit Test skills | Low-Code Outsystems.
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RELEVANT COURSEWORK

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- **Denison University:** Non-Linear Indistinguishability Query (*Independent Research, Senior Research*), Data Systems, Software Engineering, Advance Algorithm Designs, Time Series Analysis, Linear Algebra, Applied Statistics, Cryptography.
 - **Self-learning Skills:** Prompt Engineering, LLMs, Vector Database, Machine Learning, LDA Topic Modeling, Bert Models, Knowledge Graphs, Data Engineering Azure, .NET Software Engineering.
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ACTIVITIES

Chess (*Elo About 2100*), Scuba Diving (*Open Water*), Soccer, Reading Psychology Books.