Noah Dahle

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EDUCATION

Vanderbilt University. College of Engineering. Nashville, TN. **Expected May 2029**
PhD. Computer Science. **GPA: 3.88**

University of Tennessee. Tickle College of Engineering. Knoxville, TN **May 2024**
Major. Bachelor of Science, Computer Science (Honors). **GPA: 3.80**
Minor. Mathematics.

Coursework.

- Cryptography
- Automata Theory
- Representation Learning
- Numerical Methods
- Hybrid and Embedded Systems
- Reinforcement Learning
- Machine Learning
- Calculus III
- Differential Equations
- Graph Theory

HONORS

Chancellor's Honors **2020 – 2024**
Cook Grand Challenge Honors **2020 – 2024**

RESEARCH EXPERIENCE

PhD CS Research Assistant. *Vanderbilt University*. **Aug. 2024 – Present**
Mentor Dr. Xenofon Koutsoukos.

- Implemented a hybrid graph and multi-layer perceptron in PyTorch to detect compromised drones in the TTCP Cage Challenge 3 Problem.
- Compared graph approaches to non-graph approaches for detection on compromised drones.
- Accepted publication at AIAA SciTech for 2026.

Undergraduate CS Research Assistant. *University of Tennessee*. **May. 2023 – July 2024**
Mentors. Dr. Kwai Wong and Dr. Stanimire Tomov.

- Created a Graph Neural Network implementation in C++.
- Developed on top of MagmaDNN, the Innovative Computing Laboratory's neural network framework and presented results at the Undergraduate Research Symposium.
- Organizing the MagmaDNN interface.
- Mentor students in the 2024 Research Opportunities for Undergraduates program.

Undergraduate Math Research Assistant. *University of Tennessee*. **Mar. 2022 – Feb. 2023**
Mentor. Dr. Olivia Prosper.

- Implemented a C++ program that uses Dijkstra's algorithm to calculate the shortest path from any two points on UTK campus.
- Built mathematical models in Python and Excel to analyze traffic conditions in Knoxville, TN.
- Accepted publication at SIURO 2024.

PUBLICATIONS

CIKM'26. *RAD: Rule-Augmented Relational Anomaly Detection** **November 2026**

SciTech. *Detection of Compromised UAVs using Graph Machine Learning** **January 2026**

SciTech. *Remote ID Spoofing Attacks and Defenses* **January 2026**

SciTech. *A Survey of Security Challenges and Solutions for UAS Traffic Management (UTM) and Small Unmanned Aerial Systems (sUAS)* **January 2026**

SciTech. *A Survey of Security Challenges and Solutions for Advanced Air Mobility and eVTOL Aircraft* **January 2026**

SIURO. *Modeling Traffic Conditions to Determine Shortest Path*†* **January 2025**

PEARC'24. *Using Graph Neural Networks to Predict Gene-Autoimmune Disease Associations** **Summer 2024**

** First author · † Equal contribution*

PRESENTATIONS

Undergraduate Research Symposium. *Implementing a GCN on MagmaDNN.* **Summer 2023**
PEARC'24 Conference. *Using GNNs to Determine Gene Autoimmune Ass.* **Summer 2024**
PEARC'24 Conference, *PyMAGMA: A Python Interface for MAGMA* **Summer 2024**

TEACHING EXPERIENCE

Undergraduate Teaching Assistant. *University of Tennessee.* **Aug. 2022 – May. 2023**

- *Introduction to Computer Science*. Graded labs and held office hours for students who needed help.
- *Data Structures and Algorithms I*. Held office hours for students who needed assistance.

COMPUTING PROJECTS

Senior Design. *3D QR Code.* **Spring 2024**

- Developing a 3D QR-Code to better store and encrypt data.
- Inventing novel ways to store data in a 3D object.

Cryptography. *Rijndael (AES).* **Fall 2023**

- Implemented the American Encryption Standard in C++.
- Implemented the cipher and inverse cipher methods of AES.

Software Engineering. *Battle Beasts.* **Fall 2022**

- Built a monster battling game using Godot and C#.
- Developed a tournament style bracket that showed the player's monster and its opponents' movements on screen.
- Created an interface to introduce the player to the game and login.

SPECIALIZED SKILLS

Proficient Languages.

- C++
- C
- C#
- Python

- BASH
- GoLang
- MATLAB
- Scheme

Tools.

- Git
- UNIX
- VIM
- LaTeX
- VSCode
- Microsoft Excel