

EDUCATION

Georgia Institute of Technology
B.S. in Mathematics and Computer Science (GPA: 3.77)

Projected Graduation Date: May 2025 | Atlanta, GA

Relevant Upper Coursework:

Deep Learning; Machine Learning; Statistical Theory; Mathematics of Data Science; Database Systems; Information Theory; Artificial Intelligence; Probability Theory; Algorithm Analysis; Data Structures and Algorithms

SKILLS

Programming Languages: *Proficient* in Python, SQL, Java, LaTeX. *Familiar* with MATLAB, C.

Libraries, Frameworks, Etc.: Scikit-learn, PyTorch, Keras, Pandas, NumPy, SciPy, Matplotlib, Seaborn, Git.

Concepts: Deep Learning, Unsupervised and Supervised Learning, Generative Models, Seq2seq Models, Computer Vision, Statistics, Data Science, AI, Databases, Data Structures, Algorithms, OOP, VCS, Agile Methodology

RESEARCH EXPERIENCE

RESEARCH EXPERIENCE FOR UNDERGRADUATES | Researcher

Raleigh, NC | May 2023 - Aug 2023

- Attended the NSF and NSA sponsored research program (REU) at the Dept. of Math at NC State University.
- Led research on parameter estimation using biologically-informed neural networks and equation learning to obtain a mathematical model for an agent-based model with added adaptive behaviors.
- Developed a computational pipeline in Python which implements custom informed neural networks using PyTorch and applies sparse regression methods to obtain closed-form equations for an ODE approximation.
- Presented a poster on my research at the NC State Undergraduate Research Symposium and was awarded Best Poster Presentation for the Math and Statistics REU program.

WORK EXPERIENCE

UNITED STATES MARINE CORPS | Infantry Assaultman (E-5)

Camp Lejeune, NC | Oct 2016 - Oct 2020

- Served 4 years active duty and honorably separated as a Sergeant/E-5.
- Led, mentored, and collaborated with a team of 12 Marines to prioritize mission accomplishment under hazardous working conditions and stressful environments as part of Weapons Plt., Fox Co., 2/6 Marines.
- Acted as the senior representative of the Assault section for numerous training operations and two overseas deployments for a total of 15 months deployed.

PROJECTS

HYPERSPECTRAL DEEP DECONVOLUTION

CS 4644, Deep Learning, Georgia Tech | Aug 2023 - Dec 2023

Deep Learning course project on "Hyperspectral Deep Deconvolution" with the goal of sharpening images blurred by chromatic aberration while simultaneously retrieving hyperspectral information via deep learning. Implemented and analyzed results of multiple U-Net models and loss functions in PyTorch on over 6,000 images each with 29 channels.

EXPLORING MUSIC CLASSIFICATION

CS 4641, Machine Learning, Georgia Tech | Aug 2023 - Dec 2023

Led a group project on music classification on two distinct datasets for two different classes - genres and composers. We generated a thorough analysis with various unsupervised, supervised learning and data processing techniques.

BIRD CLASSIFICATION WITH CNNs

MATH 4210, Math of Data Science, Georgia Tech | Jan. 2023 - May 2023

Explored 3 distinct Convolutional Neural Network (CNN) models on a multi-class image classification task in Python using Keras. The dataset consisted of approximately 88,000 bird images belonging to 515 different classes/species.

SIMPLE RANDOM WALKS AND ENUMERATION

MATH 3235, Probability Theory, Georgia Tech | Oct. 2022 - Dec. 2022

Wrote a paper surveying simple random walks under probabilistic and combinatorial perspectives. Showcased the Gambler's Ruin problem and multivariate generating functions as a path enumeration technique.

ACTIVITIES

Vertically Integrated Program (VIP) Member of GA Tech FinTech Lab's VIP for "Machine Learning for Financial Markets".

Directed Reading Program Studied enumerative combinatorics under the guidance of a postdoctoral researcher over Fall 2022.

Georgia Tech Cycling Club Recreational mountain biking and road cycling.

AWARDS

Academic Awards

John and Susan Traendly Scholar
Zell Miller Scholar
Dean's List

Notable Military Awards

Certificate of Commendation
Meritorious Promotion
Good Conduct Medal