Nathan Stefanik

Machine Learning · Artificial Intelligence

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Summary

I am a computer science and math double major with a passion for data analysis. I have experience in collaborative research, where I helped lead my team in the critical thinking process and helped generate creative solutions to difficult problems.

- Research interests lie in deep learning and natural language processing
- Collaborates well with others, democratic team leader
- Creative thinker and problem solver

Education

Georgia Institute of Technology

Atlanta, GA

BS in Mathematics & Computer Science, GPA: 3.6/4

Expected Dec 2022

- **Courses**: Real Algebraic Geometry & Optimization, Algebraic Geometry, Deep Learning, Statistical Theory, Honors Algorithms, Algebraic Topology, Honors Automata and Complexity

Experience

GT AI Research Group - Finance Team

Atlanta, GA

AI Researcher

January 2021 - PRESENT

- Proposed and implemented solutions in investment portfolio management theory
- (Tensorflow/Keras) Built feed forward neural network to predict price movement on tech stocks with 59% accuracy
- Building VADER sentiment analysis model on relevant Tweets to aid in retail trading decisions (Work in progress)

GT School of Math

Atlanta, GA

Grader for Linear Algebra II

Fall 2021

- Graded problem sets and progress for over 70 students
- Created answer key/rubric for assignments

Ascent Math

Dunwoody, GA

Founder

May 2016 - Present

- Founded tutoring company focusing on peer instruction and consolidated local tutors under one network
- Created and led a summer camp for remedial math and advanced math for middle and high school students
- One-on-one instruction for math up to multivariable calculus and physics

Projects

Solving High Dimensionality Problems in Data Preprocessing

GT AI Research Group

Collaborative Research

Spring 2021

- Built Python scripts to scrape financial data
- Developed modules to process data using tools such as Support Vector Machines, Principal Component Analysis, and K-Nearest Neighbors

Algebraic Algorithms in Multiprojective Varieties

GT School of Math & Aerospace Engineering

Research with Dr. Anton Leykin

January 2022 - PRESENT

- Developing algorithms for Initial Orbit Detection (IOD) for objects in space
- Researching optimization problems to determine orbit-defining equations in projective 3-space

Tropical Geometry/Combinatorics

GT School of Math

Collaborative Research with Dr. Josephine Yu

Jan 2021 - May 2021

- Conducted literature review on intersection of tropical geometry and optimization problems
- Solved problems in combinatorics using tropical determinants and eigenvalues

Skills

Languages Python, Java, C, Assembly, Rust, SQL

Libraries & Frameworks Tensorflow, Keras, PyTorch, Scikit-learn, SciPy, AGILE, NumPy, Pandas, Matplotlib, Git

Extracurriculars

GreyHat Cybersecurity Club

Member

Jan 2021 - PRESENT

- Contributed to weekly lectures in cybersecurity
- Completed club's cybersecurity demonstrations