Genova Mongalo

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Relevant Coursework

- Artificial Intelligence
- Machine Learning
- Algorithms & Complexity
- Discrete Structures I & II
- Data Structures
- Database Management Systems

Education

University of Missouri-Kansas City(UMKC) Kansas City, MO

Bachelor of Science in Computer Science, summa cum laude *Aug. 2021 – Dec 2024*

Georgia Tech Atlanta, GA

Masters in Computer Science - Emphasis on Artificial Intelligence *Aug 2025*

Experience

Federal AI\ML Engineer Contractor May 2025 – August 2025

AFRL Sensors Directorate Internship Program, University of Dayton *Dayton, OH*

- Pioneered the development of generative AI models enabling a CNN classifier to successfully recognize real objects when trained on generated data when utilized in transfer learning framework, addressing AFRL/DoD priorities.
- Using PyTorch, adapted state of the art classifiers to handle novel imaging modalities.
- Utilize slurm to enable large batches of parallelized computation.
- Created an innovative game theory approach to GAN training, significantly improving the results of the generator's development.
- Strategically organized and disseminated code and results through diverse channels of authority, fostering transparent communication and cross-functional alignment.
- Applied peer-reviewed research into practical solutions, ensuring evidence-based decisions in critical environments.
- The generative model's output led to an increase of 50 percentage points in the downstream classifier compared to the baseline.

AI\ML Engineer Intern June 2024 – Dec 2024

NSF REU AI-Empowered Cybersecurity - University of Missouri, Kansas City *Kansas City, MO*

- Engineered a robust Large Language Model to detect ransomware threats within Industrial Control Systems.
- Achieved 99/85% accuracy for binary/family classification scale respectively

NSF REU in Consumer Networking - University of Missouri, Columbia *May 2023 – July 2023*

- Designed a model that detects/predicts cybersickness.
- Using a transformer machine learning model.
- Succeeded with an accuracy of 85% from a 1-10 cybersickness severity scale.

NASA Missouri Space Grant Consortium *Dec 2021 – April 2022*

- Engineered an AI-driven simulation of space-bound transmissions as part of a NASA-funded initiative
  Analyzing signal propagation and identifying optimal frequency bands under varying conditions.
- Developed an interactive interface to visualize transmission strength
- Provide adaptive frequency recommendations based on environmental parameters.

Presentation / Leadership

Mongalo, G. (Dec. 2024). LLM Based Approach to Real Time Ransomware Detection for Industrial Control Systems. Presented at IEEE Big Data 2024, Washington, D.C. (Presenter & Author, solo work with mentor guidance).

- Led the design and implementation of secure communication protocols for global families platform, ensuring safe cross-cultural exchanges.
- Engaged in collaborative development through GitHub/Azure/, ensuring version control, code integrity, and efficient communication across a distributed team.

Technical Skills

Languages: Python, C / C++, Java / C#, SQL (Postgres), JavaScript, HTML/CSS, LISP
Frameworks: Machine Learning, React, Node.js, WireShark, FastAPI
Developer Tools: Git, VS Code, Visual Studio, PyCharm, Eclipse, Anaconda, Unity, Google Cloud Platform
Libraries: pandas, NumPy, Matplot, PyTorch, tkinter