Joseph Spagnoli

561-329-2705 | jspagnoli1705@gmail.com | linkedin.com/in/joseph-spagnoli | github.com/joeyspagnoli

Professional Summary

Computer Science student at the University of Florida with a 4.0 GPA and specialized certificates in AI and Data Analytics. Proven experience in developing and deploying machine learning models at NASA and in academic research, with expertise in anomaly detection, synthetic data generation, and deep learning frameworks like TensorFlow and PyTorch. Seeking to leverage these skills to solve complex challenges as a Machine Learning Intern at Google.

Education

University of Florida | Gainesville **Aug. 2023 – May 2027**

Bachelor of Science in Computer Science, Minors: Electrical Engineering, Statistics **GPA: 4.0**

Certificates in AI Fundamentals and Applications and Data Analytics

Experience

AI Intern **Jun. 2025 – Present**

Humanworks Lab | NASA Johnson Space Center (JSC)

- Reduced manual analysis time by an estimated 90% by designing and implementing a novel anomaly detection system for identifying sensor faults in large-scale ISS ARED time-series data (11,000+ points per set).
- Engineered a comprehensive dashboard using Dash, Plotly, and SciPy, improving data analysis efficiency by 15% and enhancing readability with color-coded channels and metadata-on-hover functionality.
- Evaluating statistical anomaly detection methods and transitioning to supervised learning models to enhance predictive accuracy and system reliability.

System Administrator Intern **May 2025 – Present**

IFAS | University of Florida

- Managed technology needs for 25+ faculty, providing technical support and leading system maintenance, imaging, and deployment to ensure seamless technology integration and reliability.
- Provided hands-on assistance with Active Directory, including user account management and basic group policy tasks.

AI Scholars Researcher **Oct. 2024 – Present**

M.E. Rinker, Sr. School of Construction Management | University of Florida

- Accelerated model development by generating a high-fidelity synthetic dataset using a CTGAN synthesizer (SDV, Python), enabling neural network training for a heat-illness prediction model before real-world data was available.
- Investigated key physiological (5-8 features) and environmental (12-13 features) variables to enhance predictive models for heat-related illnesses in construction workers.
- Contributed to the design of an ANN framework for real-time heat strain prediction, paving the way for IoT integration in wearable devices to improve workplace safety.

Projects

EvoChess | Python **Mar. 2025 – Apr. 2025**

- Engineered a chess engine using a CNN trained on 80,000+ games, achieving a 900+ Elo rating by accurately predicting the optimal move from any given board state.
- Processed and transformed chess game data into structured matrices, enhancing both model training and move prediction accuracy.
- Integrated the model with an interactive chess board using Pygame and python-chess for real-time gameplay.

Six Degress of Twitter | C++ / Crow & React **Mar. 2025 – Apr. 2025**

- Designed and implemented a C++ adjacency list and traversal system using BFS and A* algorithms to explore six degrees of separation in a large-scale social network graph of 100,000 nodes.
- Built a Crow-based HTTP server to return JSON responses for graph metrics and pathfinding queries.

Data-Driven Resource Optimization | Python **Jul. 2024 – Aug. 2024**

- Drove a 20% reduction in resource costs and an 85% decrease in waste by developing a custom gradient descent algorithm to predict event resource needs.
- Visualized cost function progression using Matplotlib and validated model performance, achieving an R^2 score of 0.958 with Scikit-learn.

Skills and Achievements

Languages: Python, C++, R, Java, SQL, TypeScript **Tools**: Jupyter Labs, Git, Linux, PowerBI, MySQL, VS Code

Libraries/Frameworks: Scikit-learn, PyTorch, Pandas, NumPy, SciPy, Matplotlib, Seaborn, TensorFlow, SDV, React, Dash, Plotly, Statsmodels, Express.js, Node.js

Relevant Coursework: AI Fundamentals, Intro to Machine Learning, Intro to Software Engineering, Data Structures and Algorithms, Programming with Data in R, Engineering Statistics, Differential Equations

Awards: AI Scholar (2025–2026), UF President's Honor Roll (2025–Present), Machen Florida Opportunity Scholar (2023)