

# Joseph Spagnoli

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

## OBJECTIVE

Aspiring Software Engineer with a strong foundation in AI/ML, data structures, and algorithms, seeking to leverage my experience in developing and implementing innovative solutions to contribute to the Wells Fargo 2026 Technology Internship Program.

## 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)

- Optimized astronaut health and performance in space by developing AI and machine learning models, and created interactive dashboards with Python-based tools to facilitate efficient dataset navigation.
- 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.

### 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

- Improved artificial neural network training accuracy by developing a CTGAN synthesizer (Generative AI) using SDV and Python to generate high-fidelity synthetic datasets.
- 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

- Trained a Convolutional Neural Network on over 80,000 chess games, achieving a predictive accuracy that enables gameplay superior to a beginner player (est. 900 Elo).
- 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.
- Collaborated on integration with a React/TypeScript frontend that visualizes connections through an interactive, force-directed graph interface.

### Data-Driven Resource Optimization | Python

Jul. 2024 – Aug. 2024

- Developed a custom gradient descent algorithm to minimize the errors squared cost function for predicting event resource needs.
- Visualized cost function progression using Matplotlib and validated model performance, achieving an  $R^2$  score of 0.958 with Scikit-learn.
- Integrated model forecasts into event logistics, driving a 20% reduction in resource costs and an 85% decrease in waste.

## SKILLS AND ACHIEVEMENTS

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

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

**Methodologies:** Agile, Data Structures, Algorithms, AI/ML, Generative AI, CI/CD, REST APIs, Object-Oriented Programming

**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)