NICHOLAS FARR

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EDUCATION

B.S in Computer Science, University of Florida May 2027
GPA: 3.96 / 4.0 **SAT:** 1540/1600 (800/800 Math)
Relevant Coursework: Data Structures, Discrete Math, Advanced Programming, Operating Systems, ML Fundamentals, Software Engineering

EXPERIENCE

Software Engineer Intern Jan 2025 - Present
Lockheed Martin *Remote / Orlando, FL*

- Developed end-to-end ML pipeline using PyTorch and TensorFlow, processing 100,000+ daily manufacturing images for automated defect detection across 25+ production machines
- Built CNN autoencoder achieving 94% accuracy in anomaly identification, reducing manual inspection time by 60% and enabling predictive maintenance scheduling
- Engineered multithreaded ETL pipelines with batched transfers, improving data upload efficiency by 75% and automating root cause analysis using scikit-learn classification algorithms

Quantitative Developer Jan 2025 - Present
AlgoGators Investment Fund *Gainesville, FL*

- Developing time-series analysis toolkit with TensorBoard visualization, decomposition analysis and Kalman filtering tools to optimize trading strategy performance
- Building C++-based high-performance modules for low-latency data processing, enabling real-time signal generation and market anomaly detection
- Develop and pitch new quantitative trading strategies to executive leadership through data-driven investment proposals, utilizing backtesting frameworks to validate alpha generation potential

PROJECTS

BasePulse — Crypto Analysis Toolkit *Python, React, Coinbase API, Web3*

- Developed full-stack cryptocurrency analytics platform processing real-time ETH transactions with whale detection algorithms across 20+ cryptocurrency pairs
- Built Python backend integrating Coinbase APIs and blockchain data sources, implementing anomaly detection algorithms to identify trading patterns
- Integrated Model Context Protocol (MCP) enabling natural language blockchain queries, reducing query complexity by 80% improving data accessibility

VinoWise — Electronic Wine Recommendation System *Python, Streamlit, Data Structures*

- Developed full-stack wine recommendation application processing 130,000+ wine records using similarity scoring algorithms and multi-attribute comparison for personalized recommendations
- Implemented and optimized Quick Sort and Merge Sort algorithms with tail-call optimization, achieving 1000%+ performance improvement through linear probing collision resolution
- Built interactive Streamlit interface with dual search functionality (name-based and country/price filtering) featuring real-time wine matching with autocomplete suggestions

SKILLS

Programming Languages	C++, Python, R, Javascript, Java, Typescript
Frameworks/Libraries	Pandas, NumPy, OpenCV, TensorFlow, Flask, Scikit-Learn, PyTorch, Web3
Tools & Platforms	Git, Docker, Linux, AWS, Streamlit, TensorBoard

LEADERSHIP & ACTIVITIES

- UF Machine Intelligence Laboratory - Research member contributing to machine learning research projects and collaborative development
- Goldman Sachs Engineering Summit Participant - Selected participant in competitive engineering program
- Susquehanna Freshman Discovery Day - Participated in quantitative trading and technology exploration program