Mitchell Ford

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Education

Georgia Institute of Technology Atlanta, GA

Bachelor of Science in Computer Science (Systems Architecture and AI) *Expected: May 2027*

- GPA: 3.92 / 4.0
- Relevant Coursework: **Data Structures and Algorithms**, **Systems Architecture and OS**, Objects and Design

Experience

VeriTrade October 2025 – Present

Fullstack Engineer Intern

- Built full stack features for a **Next.js** app on **Vercel** with **Supabase (PostgreSQL)**, focusing on brokerage metrics spanning **100+** accounts; work surfaces on dashboards/analytics used by **thousands of MAU** and is designed for **millions** of historical rows per user
- Shipped cross account rollups for existing metrics (PnL, returns, win rate, drawdown) and improved metric correctness; increased calculation speed by **2x** and added rendering of fresh metrics with caching for **30% faster** load times
- Implemented **WebAuthn** 2FA and refreshed edge function documentation plus notes to align ownership and runbooks across the codebase

WillCool Corporation December 2024 – August 2025

Software Engineer Intern

- Engineered and deployed an end to end, user focused web application using **Next.js (React/TypeScript)** and **Django REST Framework (Python)** with **Supabase** for authentication; emphasized correctness, security, and clear communication while scaling to **1,000+ users**
- Built and maintained **REST APIs** that serve player facing style features like search and account actions; applied **SDLC** practices with code reviews, tickets, and **Agile** ceremonies
- Automated development and deployment with **Docker** and **GitHub Actions CI/CD**; added unit and integration tests to support reliability, fast iteration, and measurable results on production changes
- Instrumented logs and metrics to process near real time events and reason about performance, error rates, and regression risk; improved debuggability for on call style workflows

Projects

Dungeon Platformer | *Rust, Bevy ECS, WASM, LDTK*

- Developed a 2D platformer with **Bevy ECS** architecture, collision layers from **LDTK** maps, and deterministic physics for low-latency responsiveness; deployed via **WASM** for browser compatibility
- Implemented player movement systems (jumping, wall sliding, and gravity) and tuned state transitions for consistency; added **bevy_audio** and created test cases to validate input and collision invariants

Index Fund Trader | *Python, SQL, NumPy, SQLite, Alpaca, Polygon REST API*

- Built a data-driven trading and **ML** pipeline for exchange-traded funds, incorporating probability-based signal framing, expected value estimation, and feature engineering
- Ingested 1-min bar data from **Polygon REST API**, engineered technical indicators in **NumPy**, and backtested through **SQLite** datasets; observed ∼**50**% simulated return over seven months

AAPL Next-Day Direction Classifier | *Python, scikit-learn, Pandas, NumPy*

- Developed a reproducible ML pipeline combining **TF-IDF + Logistic Regression** for headline sentiment analysis with **Random Forest** baselines integrating AAPL **technical indicators** (RSI(14), SMA(3)/SMA(7), log returns, volatility) for next-day direction prediction
- Achieved **0.803 accuracy / 0.712 macro-F1** on sentiment model and **0.923 acc, 0.947 F1, 1.00 ROC-AUC** on ensemble baselines; produced **confusion matrix**, **ROC curves**, and **feature importance plots**
- Implemented **chronological train/test split** to prevent data leakage, performed **PCA** diagnostics to detect redundancy, and documented reproducibility/ablation roadmap for interpretability and robustness

Technical Skills

Languages: Java, Python, C, C++, Rust, HTML/CSS, JavaScript, TypeScript, SQL (MySQL, PostgreSQL, SQLite)
Frameworks: React, Next.js, TailwindCSS, Firebase, Node.js, Vite, Django REST Framework, NumPy, Bevy ECS
Tools: Docker, GitHub Actions, Apache, Git, Agile Methodology, JUnit, Figma, Alpaca/Polygon REST API