

# Joseph F. Ghanimah

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## SUMMARY

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Software engineer specializing in the intersection of machine learning, data science, and quantitative analysis. Proven ability to design and deploy full-stack applications, develop predictive models, and manage data-intensive systems. Brings over three years of hands-on experience in building robust, high-performance software solutions.

## EDUCATION

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### University of Illinois at Urbana-Champaign (UIUC)

Urbana-Champaign, IL

*Bachelor of Science, Computer Engineering*

*May 2025*

- **Minors:** Mathematical Statistics, Data Science
- **Awards & Honors:** President's Award Program Honors Student, James Scholar (College of Engineering)
- **Activities:** Illini Esports (Head Coach & Manager), Association for Quantitative Trading Education

## TECHNICAL SKILLS

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**Languages:** Python, C++, SQL, SystemVerilog, Assembly, HTML, CSS, JavaScript

**Frameworks:** Flask, Django, TensorFlow, PyTorch, NumPy, Pandas, Scikit-learn, Matplotlib

**Tools & Platforms:** Git, Docker, GCP, DigitalOcean, Nginx, PostgreSQL, Linux, Agile/Scrum

## PROFESSIONAL EXPERIENCE

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### Parkland College

Champaign, IL

*Technical Support Specialist*

*July 2022 – January 2024*

- Provided on-site technical support for campus administration, including software installation, hardware setup, and component-level troubleshooting to resolve user issues
- Documented technical processes and problem resolutions to build a shared knowledge base for the team

### Old Mission Capital L.L.C.

Chicago, IL

*Quantitative Trading Intern*

*May 2021 - August 2021*

- Developed a Python-based analysis tool using NumPy and Pandas to process large sets of ETF data, generating detailed reports to accelerate new trader onboarding for 500+ tickers
- Analyzed profitability metrics for a new client-facing order flow business model, presenting data-driven conclusions directly to senior traders and the CEO, avoiding an estimated six-figure loss of company bankroll
- Exposed to firm's proprietary trading strategies through intensive derivatives and microstructure curriculum

### College CoD League

Remote

*Full-Stack Software Engineer (www.collegecod.com)*

*June 2018 - March 2021*

- Architected, deployed, and maintained a complete web platform using Django, PostgreSQL, and Nginx on a DigitalOcean Linux server, supporting a large gaming community
- Engineered a database infrastructure handling 2,000+ of match data entries for in-depth player stat-tracking and leaderboard generation
- Monitored and documented server load, database performance, bandwidth, and SEO metrics

## PROJECTS

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### Algorithmic Trading Bot | Python, Pandas, NumPy, Brokerage API

- Designed and deployed a multi-strategy bot for live trading, implementing quantitative strategies such as leveraged ETF hedging with options, statistical arbitrage (pairs trading), and market making

### Reinforcement Learning Snake AI | Python, TensorFlow, Pygame

- Implemented an AI agent inspired by AlphaZero to master the game of Snake, utilizing a dual-headed neural network (policy and value) and a Monte Carlo Tree Search with alpha-beta pruning
- Trained the agent through 10,000,000+ games of self-play to develop emergent, long-term strategies