Yahya Mohamed

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Freshman Computer Science student passionate about quantitative trading, distributed systems, and machine learning. Seeking software engineering internship opportunities to apply and expand my expertise in financial technology and AI systems

EDUCATION

New York City College of Technology (CityTech) | Expected Graduation: 05/2027
B.S. Computer Science | GPA: 3.2
Completed Coursework: Programming & Problem Solving in Python, Harvard CS50x, CS50 AI, CS50 Web Programming
Current Coursework: C++ Programming, Database Systems, Probability & Statistics

TECHNICAL PROJECTS

VOLTIX - High-Frequency Trading Simulation (2024-Present)

- Developing a sophisticated distributed trading system integrating MARL (Multi-Agent Reinforcement Learning) with a low-latency order matching engine using Django, C++ and PostgreSQL
- Implementing advanced RL algorithms (Q-Learning, DQN, PPO) in PyTorch with OpenAI Gym-compatible environments for automated trading strategy optimization
- Building real-time data pipelines and order matching system using Redis caching and WebSocket connections for high-throughput processing
- Creating interactive visualization dashboard using React, Chart.js, and Bootstrap to display market dynamics, agent performance, and real-time trading metrics
- Designing custom MARL environments incorporating market microstructure, order book dynamics, and multi-agent interactions using Stable-Baselines3

MediFlow - Healthcare Management Platform (2024)

- Architected and developed a full-stack healthcare management platform using FLask, Javascript, Bootstrap , Chart,js and sqlite
- Built real-time Messaging system with Socket.io, implementing WebSocket connections for live messaging between staff and patient
- Designed and implemented HIPAA-compliant data architecture and secure authentication protocols
- Created efficient scheduling algorithms using priority queues and optimization techniques

COURSEWORK AND CERTIFICATES

Harvard CS50x - Introduction to Computer Science

- Implemented a C-based stock trading simulator with real-time price updates and portfolio management
- Developed memory-efficient data structures including hash tables and tries from scratch
- Created image processing algorithms for filtering and edge detection using pointer manipulation
- Built a secure password manager utilizing encryption and proper memory management
- Achieved perfect scores on all problem sets demonstrating mastery of core CS concepts

Harvard CS50 AI (12 Projects)

- Implemented search algorithms and optimization techniques for complex AI problems
- Developed natural language processing applications with 90% accuracy
- Created knowledge representation systems using propositional logic

Harvard CS50 Web (5 Projects)

- Built full-stack web applications using Django and JavaScript
- Designed and implemented database schemas using SQL
- Developed secure authentication systems and RESTful APIs

RESEARCH EXPERIENCE

- Investigated cooperative strategies in Multi-Agent Reinforcement Learning (MARL) to mitigate market volatility in High-Frequency Trading (HFT), using custom simulations to analyze agent behaviors and evaluate cooperative approaches for regulatory insights.

TECHNICAL SKILLS

Languages: Python, JavaScript, C, SQL, HTML/CSS
Frameworks/Libraries: React, Django, Flask, Socket.io, TensorFlow, scikit-learn
Tools & Technologies: Git, PostgreSQL, MySQL, SQLite, RESTful APIs, Bootstrap
Machine Learning: Reinforcement Learning, MARL, Q-Learning, DQN, PPO
Data Visualization: Chart.js, Matplotlib, Plotly
Concepts: Distributed Systems, Algorithms, Data Structures, Memory Management, Low-level Programming