Owen Fulton

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Skills

Languages: Python, C++, F#, Java, Rust, SQL

Tools & Technologies: Amazon Web Services, Docker, Terraform, Bitbucket Pipelines, Git, NServiceBus, Datadog, Redis, MongoDB, Postgres, BloombergAPI

Experience

Software Engineer 2, LAB Quantitative Strategies, LLC. – Denver, CO Dec 2022 – Jan 2024

- Handled over $50 million daily transactional volume for concurrent batches of futures/commodities orders by developing an automated trading system using micro-service, event-driven architecture with F#, NServiceBus, and AWS (Elastic Container Service, SQS/SNS)
- Automated futures expiration operations by customizing futures contract rolling logic to include calendar spreads
- Developed back-end order proxy service to handle client authentication (C#, JWT, websockets) with execution management systems, leading to 92% reduction in dropped sessions
- Promoted system transparency for stakeholders on research and trading teams by creating BDD and unit tests with .NET testing frameworks (xUnit.net, SpecFlow, TickSpec)
- Improved monitoring and alerting capabilities company-wide by configuring custom Slack/email endpoints (AWS Lambda, SNS/SES) and introducing structured logging for log-based metrics and alarms (AWS Firelens, Datadog)
- Standardized provisioning of AWS services (ECS, Lambda, SQS/SNS) across engineering team with Terraform and improved CI/CD pipelines by 66% with parallel build steps and Docker image/application dependency caching
- Achieved sub-5 minute average issue resolution time by leading a production support team that diagnosed and fixed trading related problems for multiple international markets

Software Engineer 1, LAB Quantitative Strategies, LLC. – Denver, CO July 2021 – Dec 2022

- Developed a containerized Spring Boot server to proxy information from an order management system to internal dashboarding services and improved client response times by 75% with in-memory caching for highly requested data
- Contributed to a research platform to automate and standardize quantitative strategy development by building custom Python packages for risk calculations, data access, and data transformation on Jupyter notebook server
- Reduced infrastructure maintenance and improved recoverability for applications by spearheading the transition from application management on AWS EC2 to container orchestration on AWS ECS
- Developed a portfolio analysis application (Python) for intraday monitoring of exposures, positions, orders, and P&L, accelerating data transformations using Python multiprocessing and front-end updates using Redis message queues

Software Engineer Intern, Lockheed Martin – Littleton, CO Sep 2020 – May 2021

- Supported the Space Testbeds and Simulation product's use of AI/ML models to transform the design, development, production, testing and operations of space-based systems
- Enabled static analysis for satellite digital twin simulations by creating a Python tool that parsed C++ models' abstract syntax trees with Clang, providing valuable insights on component usage to data analysis teams

Education

University of Colorado at Boulder May 2021

Bachelor of Science Computer Science - Engineering Honors GPA: 3.83/4.0

Certifications

- AWS Certified Solutions Architect - Associate (2023)
- Machine Learning: Fundamentals and Algorithms - Carnegie Mellon (2022)
- AWS Certified Cloud Practitioner (2021)