

# Marco Acea

## About

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## Programming Languages

Python

C++

TypeScript

JavaScript

## Software/Frameworks

OpenAI API

🤖 Hugging Face

PyTorch

scikit-learn

pandas

Dask

LLM Prompt Engineering

Distributed Systems

Bloomberg API

Alpaca

Algorithmic Trading

Risk Management

Real-time Systems

Feature Engineering

Production ML

## Education

### Carnegie Mellon University

08/2018 - 12/2022

Bachelor's of Science in Electrical and Computer Engineering

- Structure and Design of Digital Systems
- Logic Design and Verification
- Web App Development
- Intro to Embedded Systems
- Principles of Imperative Computing
- Fundamentals of Embedded Control

## Experience

### Bloomberg L.P

07/2024 - Present

Software Engineer - Electronic Trading Order Management Systems (ETOMS)

- Designed and delivered critical features for global trading platform serving thousands of financial firms, processing millions of daily transactions.
- Built comprehensive monitoring and analytics systems tracking millions of user events, providing real-time insights and operational resilience.
- Developed high-performance dashboards and data visualizations enabling traders to efficiently manage complex workflows across global markets.
- Built self-optimizing LLM systems with advanced prompt engineering, creating intelligent automation that continuously refines model performance and accelerates development velocity.

### Boeing

03/2023 - 04/2024

Software Engineer

- Developed automated UI integration tests using Selenium for web applications which significantly improved code base test coverage
- Developed Virtual Machine devices for the High Fidelity Digital Twin Program

### Intuit

05/2021 - 08/2022

Software Engineering Intern - DevX, Argo Project

- Developed a containerized GraphQL Proxy Service using Typescript, Docker, and Redis for optimization, that protects API services from potentially malicious incoming requests using rate limiting and static query analysis
- Developed new feature for the ArgoCD project that allows non-admin users to safely create Applications and Projects for themselves within a Kubernetes cluster.

### 23andMe

07/2020 - 09/2020

Software Engineering Intern

- Built Flask-based internal application management dashboard for the Application Infrastructure Team, streamlining service monitoring and authentication workflows.

## Projects

### Mid-Frequency ML Trading System

01/2023 - 12/2023

Algorithmic Trading Risk Management Real-time Systems S&P 500  
Feature Engineering Production ML

- Built electronic trading system processing S&P 500 data with neural networks (294K+ parameters) achieving 60%+ model accuracy and sub-100ms signal generation for real-time execution.
- Conceived and developed production-grade system with risk management, position sizing, and automated model retraining, featuring real-time P&L tracking and order execution via Alpaca API.
- Implemented monitoring stack with Prometheus/Grafana tracking win rates, fill rates, model/system latency metrics across 500+ symbols with 50+ technical indicators.

### ArgoCD AppSource Controller

05/2021 - 08/2021

Golang Kubernetes ArgoCD

- Built secure automation platform enabling self-service application deployment with multi-tenant access controls and safety guardrails, open-sourced and officially adopted into vetted community collection.