

Michael Cardillo

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SKILLS

Backend: Python, Flask, Django, Node.js, Express, PostgreSQL, Redis

Frontend: ReactJS, Bootstrap, HTML, JavaScript, CSS

DevOps: Docker, GitLab CI/CD, Prometheus, Grafana, GNU/Linux

EXPERIENCE

Algo-Logic Systems San Jose, CA

Senior Software Engineer

May 2022 to Current

- Designed and implemented an electric vehicle charging platform responsible for authenticating users, authorizing chargers, tracking charging sessions and billing customers via Stripe API
- Architected a scalable IoT platform that processed real-time data from hundreds of low-latency sensors and EV chargers using TimescaleDB, MQTT, Node-RED, and Grafana for telemetry and observability
- Designed and built a real-time financial market data analytics pipeline, which converted market data packet captures into charts to help visualize nanosecond-level trading opportunities, using React, Cassandra and Python (NumPy/Pandas)
- Developed a live, web-based front-end for IoT edge devices using Python, WebSockets and React
- Developed binary logging in our C++ SDK library, allowing insights into customer usage
- Implemented a proprietary, UDP-based protocol for communicating with FPGA firmware
- Mentored new engineers by explaining code bases, workflows, and technologies used, allowing them to meaningfully contribute within their first week

Software Engineer

Feb 2021 to May 2022

- Developed a framework to generate network messages for various different financial protocols (FIX, iLink3, OUCH, etc), to help the test team test FPGA firmware
- Refactored and maintained Django web interface and Flask microservice API to allow customers to configure their Tick-To-Trade FPGA systems
- Built containerized microservices and automated GitLab CI/CD pipelines, automatic deployment of native OS packages for several existing software projects, leading to reduced regressions and reducing deployment times from days to minutes
- Created a DevOps dashboard using Grafana and Prometheus and Loki to help monitor and troubleshoot a legacy web system, leading to greatly reduced system downtime
- Developed a customer-facing license portal with Flask, saving the company recurring costs by replacing the existing commercial product

Cisco Systems San Jose, CA

Software Engineer, Core Software Group - Kernel

Sep 2011 to Sep 2016

- Automated quarterly merge/build/test process, which merged thousands of upstream open-source patches into our internal OS/kernel branch, reducing sync time from a week to 3 days
- Implemented system call to return the address of a memory page that stored frequently-accessed data to a user-space process, replacing the need for further system calls
- Patched and released fixes for new open-source Common Vulnerabilities and Exposures (CVEs)

PROJECTS

cbpro-trader - Automated Cryptocurrency Trader (Python/Flask/React)

May 2017 to Feb 2020

- Collected tick data for every order on Coinbase Pro's market via their WebSocket feed
- Performed real-time technical analysis of cryptocurrency prices, using Python hooks into the ta-lib C++ library, to generate common indicators used in currency trading
- Developed a React web interface, and a curses-based console interface to display application state

EDUCATION

Pennsylvania State University University Park, PA

Bachelor of Science Computer Engineering