Brian Vivolo, B.S.

Hoboken, NJ 07030 | Phone: (973) 908-2452 | Email: brian.vivolo@gmail.com

Skills

- **Languages & Frameworks:** Python, SQL, JavaScript, TypeScript, React, Django/DRF, HTML, CSS, Pyside, Tkinter
- **Networking & Data:** TCP, REST APIs, MQTT, HTTP, ETL, Client-Server Architecture, Concurrency
- **Development:** Git, Cloud Deployment (Azure, AWS), OOP/Functional
- **Soft:** Cross-functional Communication, Creative Solutions, Attention to Detail, Organization, Proactivity

Experience

ENGINEERING CALCULATOR APP | AIRTECH GROUP, INC. | TKINTER, APP DEVELOPMENT, LEGACY SYSTEMS

- Rebuilt a Tkinter-based engineering app into a polished customer-facing application to help the sales team provide better service to customers and close deals.
- Received, translated, completed, and integrated feature change requests using self-managed ticketing system. Bundled related new features into git-controlled version releases, and launched to users
- Modernized the UI with updated graphics, single-window feature display, and a rearchitected UX
- Introduced reliability and ergonomics best practices like functionality compartmentalization, minimized side-effects, type-hinting and SOLID principles, enhancing code clarity and simplifying the debugging processes.

IIOT TEST DATA PIPELINE | AIRTECH GROUP, INC. | PYTHON, AZURE, WEBHOOKS, MQTT, HTTP,

- Developed an IIoT pub-sub system that facilitates transmission of test data from automated testing equipment to a cloud-based test reporting service
- Designed and deployed an MQTT/HTTP brokerage service to Azure consisting of a VM running an MQTT brokering software and a serverless function app
- Integrated the test reporting service's API into company databases for data analysis and ERP system trigger for related actions in Oracle's JD Edwards ERP system through its public API.
- Engineered an ETL pipeline leveraging webhooks, HTTP protocol, and Azure serverless functions to streamline data flow from the company's test reporting service to an in-house database.

Projects

TEXAS HOLD'EM DESKTOP APP | QT, WEB SOCKETS, CLIENT-SERVER ARCH., CONCURRENCY, INHERITENCE

- Developed an online poker app with a client UI created using PySide and a server written in Python
- Implemented client-server communication via TCP sockets and concurrency using the threads library
- Applied OOP principles (inheritance and SOLID) to create an ergonomic and scalable codebase.
- Implemented an intermediary message router and JSON-based communication protocols to efficiently relay data and enhancing modularity.
- Integrated concurrency for real-time gameplay, improving responsiveness and user experience.

Education

RENSSELAER POLYTECHNIC INSTITUTE | B.S., MECHANICAL ENGINEERING