

# Gabriel Dougherty

contact@gabrieldougherty.com | linkedin.com/in/gabriel-dougherty | github.com/GabrielDougherty

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## Work Experience

### Software Engineer – Tech Lead, Configuration Tooling

*April 2022 – Present*

*FIS (formerly Torstone Technology), New York, NY*

- Lead implementation of a Docker, Python and Poetry-based configuration tooling system used by all developers on the Post Trade Processing (PTP) product.
- Adapt the configuration tooling system to work under the specific constraints of a production rootless container environment.
- Create a C# ASP .NET Core REST API service to import client address model data, wrapping a legacy blocking queue API using C# asynchronous primitives.
- Design and implement a complete C++ integration to send daily investor communications on 5 million positions to 1.5 million retail brokerage customers.
- Coordinate with UI and Settlement teams when implementing REST APIs for Middle Office block trades and Asset Servicing data.
- Develop enhancements to a core C++ platform code generator, written in Python, that generates the REST model serialization layer so developers do not need to handwrite it.

### Lead Software Engineer – Promoted from SWE II & SWE I

*May 2019– April 2022*

*Cadence Design Systems, Pittsburgh, PA*

- Built a C++/Python machine learning and optimization framework and helped integrate it into Cadence products for analog integrated circuit (IC) design, microwave design, and fluid dynamics simulation.
- Reduced simulation time by 80% for a specific customer mixed signals design problem by integrating and tuning a genetic algorithm.
- Created REST APIs to power analytics tools for large IC design teams to collaborate on and explore optimization progress on complex designs.
- Created tools to detect and prevent overlapping regions in large, deeply nested analog IC designs using an efficient minimum bounding box algorithm.

### Software Engineering Intern

*May 2018 – August 2018*

*Acutec Precision Aerospace, Meadville, PA*

- Developed a C# application to automate documentation for every finished part produced.
- Reduced documentation generation time by 90% when compared to manual documentation.
- Created data analytics tools to detect anomalous machined part information.

## Skills

- **Languages:** Python, C++, SQL, Bash
- **Frameworks/Libraries:** Pandas, ASP .NET Core, Google Protobuf, C++ Boost
- **Software:** Docker, Oracle SQL, multithreading, TCP/IP, SQLite, Git, Linux, CMake

## Education

### Edinboro University of Pennsylvania

- B.S., Computer Science

*Graduation: May 2019*