Gabriel Dougherty

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Work Experience

Software Engineer *April 2022 – Present*
Torstone Technology

- Design and implement a complete C++ integration to send daily investor communications on 5 million positions to 1.5 million retail brokerage customers.
- Use C++ emplacement and string_view to parse and generate financial records with minimum number of copies and allocations, ensuring a high processing throughput.
- Create services to batch import ~500k savings plans by splitting out the plan details into the requisite trades and feeding them into the Inferno post trade platform.
- Coordinate across different product teams on the design of REST interfaces to serve asset servicing and middle office block trade data for use during settlement and in the UI.
- Develop enhancements to a core C++ platform code generator that removes the need for developers to handwrite Protobuf translation code and instead focus on building out the post trade product.

Lead Software Engineer *July 2021– April 2022*
Software Engineer II *December 2019 – July 2021*
Software Engineer I *May 2019 – December 2019*
Cadence Design Systems

- 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

- 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:** C++, Python, SQL, Bash
- **Frameworks/Libraries:** Google Protobuf, C++ Boost, ZeroMQ, NumPy
- **Software:** Oracle SQL, Docker, multithreading, TCP/IP, SQLite, Git, Linux, CMake

Education

Edinboro University of Pennsylvania

- B.S., Computer Science *Graduation: May 2019*