Owen Q. Brooks

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Education

- **University of Illinois at Urbana-Champaign** — Remote
  Master of Computer Science in Data Science; GPA: 3.7 — *Jan 2021 - May 2023*
- **Drexel University** — Philadelphia, PA
  Bachelor of Science in Computer Engineering; GPA: 3.5 — *Sept 2016 - June 2020*

Experience

- **PGIM Quantitative Solutions** — Newark, NJ
  Senior Data Engineer — *October 2021 - Present*
  - **Portfolio Optimization Platform**: Enhance equity portfolio optimization platform by decreasing latency, improving post-trade analytics and automating various client reports.
  - **Back-testing Framework**: Refactor and support back-testing framework used by researchers to test new strategies.
  - **Vendor Data Library**: Built a uniform Python interface for retrieval of vendor market data from various data sources.
  - **Factor Implementation**: Improve speed and reliability of factor generation code in Python and Matlab. Decreased overall storage size of factor data by 70%.
- **Bloomberg L.P.** — Princeton, NJ
  Data Engineer — *July 2020 - September 2021*
  - **Data Quality Micro-services**: Increased data quality standards by developing Python micro-services to run statistical checks and business rule validations on various datasets.
  - **Dev-Ops Web App**: Developed a Python and React web application with various forms and dashboards for dev-ops and governance related requests.
  - **Time Series Comparison Package**: Increased efficiency of time series matching by building a Python package with implementations for various NumPy based comparison techniques.
- **CRED iQ** — Radnor, PA
  Jr. Software Developer — *Dec 2018 - July 2020*
  - **Web Scraping**: Automated the collection of commercial real estate data by building Python web crawlers. Wrote tools to parse and normalize data from collected documents. Deployed and scheduled crawlers using AWS.
  - **CMBS Analytics Application**: Contributed to development of full-stack application for analysis of commercial mortgage-backed securities. Created various data visualizations of commercial property data.
  - **Comps Model**: Developed model to determine comparable properties using a weighting of different factors.
- **Comcast** — Philadelphia, PA
  Software Engineering Co-op — *May 2018 - September 2018*
  - **Workflow Dashboard**: Designed and built full-stack Spring-Boot application allowing users to monitor data-transfer workflows. Leveraged 3rd party Java API to safely interact with automation software.
  - **Workflow Control API**: Simplified access to backend database by creating a REST API using Spring-Boot and JPA. Researched and implemented continuous deployment using Jenkins and Cloud-Foundry.
  - **Big Data ETL Pipeline**: Built Hadoop based work flows for ingestion and transformation of device usage data.

Projects

- **XAI Senior Project**: Academic paper comparing the effectiveness of eXplainable AI methods on neural nets. Involved detailed project planning and various presentations on team progress. (Python, Tensorflow, Keras)
- **UFC Prediction Project**: Comparison of different machine learning models on prediction of UFC fights (Python, XGBoost, Tensorflow, SciPy)
- **Owen-brooks.github.io**: Personal website and blog with articles on work experience and programming. (Jekyll)

Select Skills

- **Languages**: (proficient): Python, Java, JavaScript, SQL, Bash (familiar): MATLAB, R, C++
- **Frameworks and Tools**: Bloomberg Terminal, Git, JIRA, Pandas, SQL Server, Mongo, NodeJS, React, Flask, AWS