

# Fawaz Shah

Personal Website: [fawazshah.github.io](https://fawazshah.github.io)

GitHub: [github.com/fawazshah](https://github.com/fawazshah)

## Experience

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### Bloomberg L.P.

#### ○ Software Engineer

Sept 2021 - present

- Part of the ESG Data team in Bloomberg Indices, building tools to ingest ESG datasets from both internal and external sources, perform quality control of the data, and expose data via point-in-time APIs for use in calculating financial indices. Full-stack work using mainly C# and Postgres/MS SQL Server
- Developed Data Browser web application to view data owned by our team, built using React/Typescript for front-end and Python/FastAPI for back-end. Demo'ed to ~40 internal users to positive feedback. Established the paved path for web development in our org, which has traditionally focused on Windows-only desktop application development
- Sped up data loading in the Data Browser by 30% by optimising an  $O(n^2)$  data merging algorithm to be  $O(n)$ , and converted data to Apache Arrow format for better schema management
- Lead developer for the backend of a webpage to allow data administrators to QC and sign-off on ESG datasets. Developed endpoints to view ESG metadata, sign off data and add overrides to the data. Clarified expected behaviour of our API to the front-end team, and suggested improvements to how they call our API to improve the webpage as a whole
- Previously part of the Equity Calculators team in Bloomberg Indices, developing calculation logic that powers Bloomberg's equity indices
- Helped develop a new system architecture to handle corporate actions and daily index calculations. Improved calculation speed by 20x by bulking up data retrieval/storage, minimising amount of data stored and optimising Rabbit messages
- Led migration of over 150 indices to this new system, keeping stakeholders in Product/Operations teams informed and performing stringent testing of the new system before migrating

### Bloomberg L.P.

#### ○ Software Engineering Industrial Placement

June - Sept 2020

- Worked in Commodities Navigation & Analytics, a team that services commodities data to Bloomberg's financial analysts
- Added a feature to Amundsen, a dataset discovery web-app, to let analysts launch Jupyter notebooks with datasets automatically loaded into Pandas dataframes
- Improved configurability of the ETL pipeline ingesting data into Amundsen from the Commodities datalake
- Developed an automated smoke tester for the Presto query engine serving the datalake
- Incorporated historical price search and improved charting capabilities into one of the team's Bloomberg Terminal functions

### Bloomberg L.P.

#### ○ Software Engineering Intern

July - Sept 2019

- Worked in Strategy Indices, developing a visualisation tool to display the structure, configuration and historical data of indices created with 'Behaviours', an internal C# framework
- Created user interfaces using WPF and XAML, with an SQL database behind the scenes

## Education

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### Imperial College London

#### ○ MEng Mathematics & Computer Science (Joint Honours)

2017-2021

- Awarded First Class Honours
- Thesis topic: *Detecting Political Bias On Reddit With Transfer Learning*
- Modules of interest: Natural Language Processing, Machine Learning for Imaging, Time Series Analysis
- Awarded a Merit in Japanese Horizons Level 2 Course

## Skills

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**Languages** - C#, Python, Typescript

**Databases** - Postgres, Microsoft SQL Server

**Technologies** - FastAPI, React, Apache Arrow, Blazor