

## Experience

- NOV 2021– **Vice President, Full Stack Engineer, BNY Mellon**, London.
- Front office developer role working primarily in Java and TypeScript to build and maintain applications central to the running of the FX sales and trading platform.
  - Lead developer taking on responsibilities such as architecture design, mentoring junior developers and leading code reviews in a high pressure, agile environment.
  - Deploy and maintain production applications to bare metal environments in co-location sites globally, as well as containerised applications within the bank's private infrastructure.
  - Liaise with product, strategy, trading and production support stakeholders in order to resolve issues, design/implement features, demo solutions and ensure sufficient levels of control in accordance with regulatory requirements.
- SEP **Developer, Space48**, Manchester.
- 2019–SEP **Developer, Space48**, Manchester.
- Worked closely with external clients to deliver SaaS platform integration micro-services in the cloud to meet their business requirements.

## Notable Projects

- 2022– **Vendor Replacement, BNY Mellon**, FX Trading Platform.
- Worked in a team of 3-6 developers in a lead capacity to develop major improvements on our internal FX Spot aggregation and trading platform used by traders globally, handling up to \$1B of trading volume a day.
  - Involved across all stages of the project, from initial planning and design to development, testing and deployment, ensuring high code quality and working with senior developers and domain experts. Took ownership of codebases across the entire stack, from market aggregation/execution to cross regional message transport.
  - Improved upon price latencies on the UI, spearheading efforts on both the frontend and backend to reduce the time taken to print a price on the UI to under 100ms.
  - Handled conformance for a number of liquidity providers, liaising with internal and external stakeholders to ensure smooth integration.
  - Took the platform through various stages of growth, from a small proof of concept with access to full amount style trading in Singapore, to a fully fledged global trading platform with sweep capabilities and access to 20+ liquidity providers across New York and Singapore. Replaced third party vendor SmartTrade's aggregation platform, ensuring feature parity, resulting in up to \$1M/yr savings.
- 2021–2022 **App Migration, BNY Mellon**, Post Trade Enrichment Tool.
- Rebuilt an internal tool's frontend codebase in Angular after AngularJS (1.x) EOL as part of a team of 3 developers.
  - Joined midway through the project and quickly became a contributing member of the team, optimising existing build processes and the developer experience, whilst also documenting existing functionality and noting possible improvements.
- 2020–2021 **App Development, Space48**, Styla CMS Shopify App.
- Worked in a team of 3 to architect and develop a Shopify app using NextJS and Google App Engine, allowing users to sync product pages from the Styla CMS platform to their Shopify store.
- 2019–2020 **Website Re-platform, Space48**, Ordnance Survey Map Shop.
- Replatformed ecommerce website from Magento to BigCommerce, personally responsible for building micro-services using Microsoft Azure, integrating SSO, ERP and subscription services.
  - Led the development of the subscription service, taking responsibility for architectural design and writing of test plans and support documentation.

## Skills

- Coding Java, TypeScript/JavaScript, Bash/Shell, Terraform, Python, C++, PHP, HTML+CSS, R (basic)
- Frameworks **Frontend**: React, Angular, NextJS; **Backend**: Spring, Express
- Messaging **Transports**: Solace, ZeroMQ, REST/WebSocket; **Protocols**: Protobuf, Flatbuffers, FIX, SBE
- Databases Redis, Microsoft SQL Server, Prometheus, Microsoft Azure Cosmos, Google Firestore
- Computing Linux (RedHat, Ubuntu, Raspbian/Debian, QNAP OS), Docker

## Education

2015–2019 **Mathematics MMath (Hons)**, *University of Manchester, UK*, 1<sup>st</sup> Class.

- Final year project on a graph theory problem with a computational approach, researching techniques for constructing graphs with minimum girth and edge regularity amongst vertices. Described algorithms from an abstract algebra perspective and experimented with the algebraic programming language Magma.
- Programming courses using Python and C++ to explore problems such as Compressed Sensing, John Conway's Game of Life and building CLI tools and games.
- Other courses included heavy emphasis on abstract algebra and mathematical logic.