

# Matthew Whitworth

Skilled software developer and experienced technology leader with over a decade of commercial experience

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## EMPLOYMENT

### Tallarum, London, UK

Mar 2018 - present

**Technologies:** Elixir, Phoenix (LiveView), Typescript, Ember, GraphQL, OpenFin, R, Terraform, Notion, Jira

- ❑ Joined as a **Senior Software Developer (Mar - Oct 2018)**, promoted to **Lead Software Developer (Oct 2018 - Dec 2020)** and then **Chief Technology Officer**
- ❑ *Tallarum develops a market data aggregation platform for energy trading, ingesting unstructured data in the form of chat messages and voice calls to produce structured data in a SaaS Terminal and API, now sold to supermajors and leading trading houses.*
- ❑ Grew Engineering team to six developers and a lead data scientist, growing junior hires into senior and lead roles and propagating best software engineering and problem-solving practices
- ❑ Researched and planned the company's "fair value" derived data product, to provide reference prices in an opaque, illiquid market, incorporating research topics such as Gaussian Processes to provide market-leading coverage and accuracy
- ❑ Researched, planned and led a voice recognition project to provide quick and accurate transcripts and quote data, as an additional data source for the Terminal product, and applied for Innovate UK government funding to support the project
- ❑ Added support for many new product groups to the core NLP technology, and have become the firm's authority on these and other OTC oil derivative products by establishing "Tallarum University", an internal set of training courses and a domain knowledge base.
- ❑ Took on management of more efficient customer onboarding, establishing a knowledge base for customer questionnaires and coordinating ISO27001 certification preparation

### Asperatus Capital, London, UK

Feb 2011 - Mar 2018

**Technologies:** C++, Boost, QT, Perl, R, MySQL, AWS, CFEngine, Ansible, Jira

- ❑ Joined as a **Technologist (Feb 2011 - Jul 2013)**, promoted to **Senior Technologist (Jul 2013 - Apr 2016)** and then **Chief Technology Officer (Apr 2016 - Mar 2018)**
- ❑ *Asperatus Capital is a quantitative hedge fund set up by the former Global Head of Electronic Arbitrage Trading at Credit Suisse, trading medium and high frequency strategies across a number of asset classes and regions*
- ❑ Managed team of two technologists, reporting to the CEO
- ❑ Planned and executed the migration of the firm's low latency European trading to a new executing broker, including development of a normalised data feed client
- ❑ Planned and implemented a cross-language service-oriented architecture to share common research data access and transformation functions to reduce duplication of effort across the firm
- ❑ Responsible for maintaining the firm's proprietary trading supervisor, whose functionality comprised basket trading, risk and portfolio management
- ❑ Optimised the Linux production environment for a liquidity provision algo running on colocated trading machines – with a focus on ensuring uninterrupted pinned real-time threads – and wrote a set of

scripts to capture and highlight performance issues

- ❑ Developed the firm's low-latency European equity data feeds to run in-process in trading algos. Raw feeds for LSE, Xetra, Eurex and OMX; and a normalised feed handler for Euronext, SIX and Oslo
- ❑ Developed and responsible for maintaining most of the firm's middle-office and back-office processes as a set of Perl scripts
- ❑ Procured and deployed trading machines to colocated exchange environments, managing system through CFEngine and automating system changes through Ansible

## **Bloomberg, London, UK — *Financial Software Developer***

Sep 2010 - Feb 2011

**Technologies:** C++, Javascript

- ❑ As part of the Systems team, I was part of a team of two starting development on an internal package management system for internal usage

*Internships with Bloomberg and the Applied Modelling Computation Group at Imperial College London as further experience*

## **EDUCATION**

### **CFA Society, London, UK — *Investment Management Certificate***

Nov 2015

As part of acquiring the FCA CF30 (customer function) at Asperatus Capital

### **Imperial College London, London, UK — *BEng, Computing***

Sep 2007 - Jun 2010

Thesis supervisor: Naranker Dulay

Awarded a First class degree and the **ARM Project Prize** for my final year thesis, "[Improving Networking](#)" - describing the implementation of a zero-copy send/receive userspace network stack for my operating system Whitix.

Held positions as an Undergraduate Teaching Assistant and Third Year Representative.

## **PERSONAL PROJECTS**

### **Whitix — *Operating System***

Developed, while in secondary school on my own initiative, a x86/x86-64 operating system, Whitix, from scratch (2006 – 2010) with a preemptive multitasking kernel. Wrote a userspace network stack and Linux network driver compatibility layer, and started a USB stack and POSIX compatibility layer. For the userland environment, I ported GCC, Python, Mono (C#), and wrote a shell and text editor.

## **OPEN SOURCE**

Maintainer or top contributor to a number of Elixir ([reverse\\_proxy\\_plug](#), [monocle](#), [mox\\_inject](#) and [phoenix\\_better\\_table](#)) and Ember projects ([ember-gherkin](#), [ember-useful-decorators](#))