

Michael Walsh

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WORK EXPERIENCE

Trainline - Software Engineer - Search & Realtime - London, UK

Apr 2022 - Present

- Search & Realtime is responsible for the search domain of Trainline. Anything that happens in-between the search button being clicked and results being returned to the user is orchestrated by us. Calling vendors, querying timetable data, aggregating journeys and distilling thousands of combinations into a select few to display to customers, all within a few seconds.
- We own over 50 microservices and a wide estate of cloud infrastructure which are regularly contributed to by other teams. Because of this, we've streamlined our ways of working, paving the way for development practices across the company. All of our services are highly efficient, easily maintainable and follow the same coding conventions and review process. All of our CI/CD pipelines are templated, and our AWS infrastructure is fully automated, using Terraform for infrastructure as code.
- This role is fully back-end, I spend my time writing C# and terraform, using AWS, reviewing PRs, and supporting other teams.
- Significant contributions I've made since starting include:
 - Leading the development efforts of completely re-architecting a monolith .NET framework service into multiple smaller .NET 6 microservices, which not only saved server costs, but was significantly faster than the old implementation.
 - Driving our teams first foray into Amazon ECS, containerising a major service and implementing/delegating the infrastructure work required to have it running in multiple environments/regions at scale.
 - Becoming the resident performance expert within my team. I've fixed several memory leaks, ran workshops on profiling tools, and drove an entire performance related OKR to completion. Our SLA is among the highest in the company.

Trainline - Software Engineer - Coverage Team - London, UK

Apr 2020 - Apr 2022

- I was part of the Coverage mission at Trainline, which focused on getting customers onto the website. To achieve this, we worked closely with the SEO team to maintain tens of millions of pages across the UK and EU markets, ensuring that our SEO ranking was the best it can possibly be.
- Our work came with its own unique challenges; any changes or new behavior we added had to be scalable and performant across a vast quantity of pages. Performance played a huge factor in our work and gave us an edge over any competitors, ensuring that we passed Google's Core Web Vitals checks.
- This role was full-stack, with a focus on backend, involving a variety of technologies, but the most common are C# (.NET), Javascript (React), AWS, SQL and Redis.
- My most significant contributions to the Coverage team include: leading the creation of new backend SEO functionality, creating services which allowed us to converge our UK/EU backend, and creating a service which uses content spinning for our front-end pages, bolstering our seo ranking significantly.

Redgate Software - Software Engineer - SQL Prompt - Cambridge, UK

Sep 2018 – Apr 2020

- SQL Prompt is a T-SQL productivity plugin for various IDEs, allowing advanced intellisense, code analysis, formatting, code refactoring and a plethora of other capabilities.
- I worked with a variety of technologies daily, including: C#, .NET, WPF/WinForms, SQL, Azure and Typescript.
- As an engineer on a small team of ~9 people, I:
 - Helped port a large portion of a legacy C# .NET Framework codebase to modern .NET Standard.
 - Developed a T-SQL grammar tree viewer tool which allows for easy diagnosis of grammar problems.

EDUCATION

University of York - Computer Science BEng – First Class with Honors

Graduated 2018

- Final year project – Visualizations of Monte Carlo Tree Search. Presented as an exhibition at the York Festival of Ideas in 2018.
- Achieved the York award during my First Year.
- Committee member for the Game Development society.
- Won several hackathons during my degree, some of which led to paid freelance work.

SKILLS

- **Programming Languages** - C#, Java, C++, Typescript, Javascript
- **Technologies** - Git, .NET, AWS, Terraform, Unity, OpenGL, Android, Windows, Linux, Teamcity, WPF, WinForms

INTERESTS

- Game development - A huge passion of mine. I have many projects, most of which are open-source and can be found on my Github/website. I have published games to several app stores, won prizes in several game jams/hackathons, developed mods for existing games, and contributed to popular open-source game engines such as LibGDX.