

Rory Holmes

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Senior Software Engineer with a background spanning distributed systems, cloud infrastructure, and academic ML research. Currently at BBC building metadata platforms at scale, with a track record of rapid progression and delivering high-impact technical solutions across diverse stacks.

EXPERIENCE

- BBC** | *TypeScript, Scala, Node.js, AWS, GitHub Actions, Docker, Kafka* Sept. 2024 – Present
Senior Software Engineer (Promoted March 2026)
- Develop and maintain scalable content metadata delivery systems as part of the Passports team, serving human and ML-generated metadata for over 9 million content pieces across BBC platforms
 - Led overhaul of Passports aggregation algorithms to enable context-aware assertion re-evaluation, resolving complex dependency graphs to improve metadata accuracy
 - Designed cross-account Kafka (MSK) solution, solving complex AWS auth and networking challenges
 - Engineered key components of contributor-content association system in Scala, enabling enhanced content discovery and personalised recommendations across BBC's digital ecosystem
 - Mentor and support team members through pairing, technical guidance, and code reviews, including onboarding new joiner to independent contribution within their first month
- Omnisis** | *C#, .NET, SQL, TypeScript, React* June 2023 – Sept. 2024
Software Developer (Promoted Feb. 2024)
- Led server-side development of greenfield web app for complex survey data visualisation and statistical analysis
 - Modernised legacy authentication infrastructure by implementing OAuth 2.0 and OpenID Connect protocols
 - Proposed and built OpenAI API integration for automated audio transcription, achieving 99.8% cost reduction
 - Built AI/NLP system for automated categorisation of open-ended survey responses, eliminating manual processing overhead
- University of Sheffield** | *Python, PyTorch* Oct. 2022 – June 2023
PhD ML/AI Researcher (Left to pursue software engineering career)
- Conducted cutting-edge doctoral research in bio-inspired ML, developing novel neural network architectures
- Omnisis** | *C#, .NET, SQL, Python* June 2021 – Oct. 2022
Junior Software Developer
- Implemented an event-driven system with precomputed partial outputs, achieving up to 1000× faster file generation for critical survey reports
 - Performed market segmentation through dimensionality reduction, clustering and classification, successfully identifying incentives for a survey panel, resulting in improved targeting and engagement strategies

EDUCATION

- University of Sheffield** Sept. 2017 – Sept. 2022
MSc Computational Neuroscience (Distinction) *Sept. 2021 – Sept. 2022*
- Dissertation:** Reverse Engineering Gene Networks – Developed advanced ML pipeline combining recurrent neural networks with image processing to reconstruct gene regulatory networks from in situ hybridisation data
- BSc Psychology (First-Class Honours)** *Sept. 2017 – June 2020*

CORE TECHNICAL SKILLS

Languages: TypeScript, JavaScript, C#, Python, Scala, SQL
Web & Frameworks: Node.js, Express, .NET, React, Tailwind, Next.js
Cloud & Infrastructure: AWS, Docker, GitHub Actions, Kafka
Databases: PostgreSQL, SQL Server, MongoDB
Testing & Quality: Jest, React Testing Library, XUnit, Moq, Cucumber, BDD, TDD

AWARDS

- EPSRC DTP iCASE scholarship (£100k+, awarded to support doctoral ML research), 2022
- University of Sheffield merit-based scholarship, 2021