

WILLIAM PARKHOUSE

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Education

University of Birmingham

AI and Computer Science BSc w/ Industrial Year - Grade: 88% (99th Percentile)

September 2022 - June 2026 (Expected)

Birmingham, UK

University of Amsterdam

Urban Changemakers Summer School

July 2023 - August 2023

Amsterdam, NL

Self-Tuition

Mathematics (A*) and Further Mathematics (A) A-Levels

January 2022 - May 2022

Bristol, UK

Experience

Hewlett Packard Enterprise

Software Engineer Intern

July 2024 - July 2025 (Expected)

Bristol, UK

- Developing and maintaining backend microservices for cloud storage with a focus on clean, efficient and rigorously tested code.
- Developed APIs for high-throughput data ingestion into a datalake for big data applications.
- Developed PactFlow contract testing and WIRE DI implementations, both adopted as organization-wide standards.
- Designed and implemented a microservice anomaly detection system, with a focus on mathematically proven accuracy, and an innovative CO2 tracking system for microservice emissions.
- Technologies: Go, Docker, Kubernetes, Helm, gRPC, Kafka, Prometheus, Grafana.

University of Birmingham

Teaching Assistant

September 2023 - April 2024

Birmingham, UK

- Facilitated group tutorials (40-80 students), smaller sessions (5-15 students), and one-to-one tutoring for the "Mathematical and Logic Foundations for Computer Science" and "Full Stack Application Development" modules.
- Topics taught include propositional logic, predicate logic, linear algebra, abstract algebra, set theory, among others, for MLFCS, and concurrent programming, SQL, databases fundamentals, networking, and GUI development for FSAD.

Freelance

Audio Engineer / Videographer / Colourist

September 2019 - June 2022

Bristol, UK

- Provided audio engineering, videography and colouring for clients in music, advertising, and political messaging.
- Clients include the Labour Party, dozens of musicians and Lithuania's largest shopping mall.
- Delivered high-quality results under tight deadlines, identifying the perfect outcome for clients, given constraints, working as a team or independently, using DaVinci Resolve, FL Studio, After Effects, and Photoshop.

Panasonic, Sony, Carpetright

Store Sales Manager, Store Sales Promoter, Sales Executive

July 2019 - January 2022

Bristol, UK

- Consistently ranked in the 95th percentile for sales in the Southwest region, closing deals totalling £2m in revenue.
- Trained 20+ staff on USPs, sales techniques, and product details; built strong rapport with management.

Technical Skills

Languages: Go, Java, Python, C, SQL

Tools: Docker, Kubernetes, Prometheus, Grafana, Haystack, Git, PyTorch, Caddy

Technologies/Frameworks: PostgreSQL, Helm, gRPC, Kafka, NATS, Spring Boot, React, Next.js

AI Skills: Vector Search, RAG agents, NLP (NER, classification), ETL pipelines, High-Performance Caching (Valkey), LLMs

Projects

raiss - Co-founder, Lead Developer

September 2024 - Present

- Leading the development of a shopping search platform, using a scalable RAG AI agent, combining ETL pipelines, auto generated product taxonomies, NER NLP pipelines, and high-performance caching to optimize queries and product discovery.
- Engineered a hybrid recommendation system combining vector search, web scraping, and LLM-driven semantic analysis to deliver precise, context-aware, and personalized product suggestions.
- Technologies & Tools: Python, Go, React, Haystack, LLMs, Kubernetes, Docker, PostgreSQL, Valkey.
- Implemented scalable infrastructure and DevOps (CI/CD) pipelines using Docker, Kubernetes, AWS and Caddy.

lowertones - Lead Developer and Agile Lead

January 2024 - June 2024

- Lead a team of 7 developing a music organisation and metadata insight web-app.
- Developed on Spring Boot backend, with Postgres DB, and a Angular frontend, with DevOps and CI/CD managed in-house.
- Created custom Musicbrainz ID to Spotify ID mappings via custom search algorithms, and published dataset.

Leadership / Extracurricular

Head of Technology - BurnFM Radio Station

September 2022 - June 2024

- Maintained all technical aspects for BurnFM (radio station), leveraging previous experience as an audio engineer, ensuring smooth operation of broadcasting, 85 hours weekly.
- Led the upgrade of broadcasting software and servers, reducing costs and boosting presenter retention.
- Modernized outdated WordPress website, enhancing security and slashed loading time from 7s to 1.1s using React and Next.js
- Trained team of 25 committee members on all technical aspect required to run and supervise shows.

Other Activities

- The Birmingham Award* awardee for developing professional skills by undertaking a variety of developmental activities.
- Treasurer for PhotoSoc (Photography Society) 23/24.