

WILLIAM PARKHOUSE

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Education

University of Birmingham

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

Sep 2022 - Jun 2026 (Expected)

Birmingham, UK

Self-Tuition

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

Jan 2022 - May 2022

Bristol, UK

Experience

Recapa

Founder & CEO

Mar 2025 – Present

- Founded and leading a team of 6 building a platform that synchronises crowd-captured concert video with high-quality soundboard audio, delivering recaps for fans and a rights-cleared UGC pipeline for labels.
- Managing GTM and running partnerships with industry - secured 3 confirmed arena pilots (~35,000 total attendees) with Lithuania's biggest pop artist, conducted 20+ label conversations and surveyed 500+ fans.
- Engineered novel and scalable audio fingerprinting pipeline & Go/Supabase backend, cross-platform mobile apps and pipelines for upload and playback.

Meta

Software Engineer Intern

Jun 2025 - Sep 2025

London, UK

- Delivered end-to-end integrity workflow for Facebook Dating ahead of schedule, aligning with XFN partners across platforms, earned “exceeds expectations” feedback.
- Led migration to a new, untested enforcement framework, maintained timeline, and set direction for team-wide adoption.
- Developed and deployed a new integrity enforcement mechanism, resulting in a ~35% uplift in violative accounts disabled.
- Enhanced platform infrastructure by resolving critical production bugs, creating reusable components, and improving testing frameworks and internal tools beyond immediate project scope.
- Shipped 52 PRs (9k LOC, 83 unit tests) at 3.7x team average velocity, with 93.7% test coverage (96th percentile across Meta).

Hewlett Packard Enterprise

Software Engineer Intern

Jul 2024 - Apr 2025

Bristol, UK

- Developed and maintained backend microservices for cloud storage, APIs for high-throughput, petascale data ingestion, and novel testing practices adopted organization-wide, with a focus on clean, efficient and rigorously tested code.
- Designed and implemented a microservice anomaly detection system based on a novel statistical 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

Sep 2023 - Apr 2024, Sep 2025 - Dec 2025

Birmingham, UK

- Facilitated group tutorials (40-80 students), smaller sessions (5-15 students), and one-to-one tutoring for maths and logic, and full-stack development modules, teaching propositional logic, predicate logic, linear algebra, abstract algebra, set theory, concurrent programming, SQL, and networking.

Freelance

Audio Engineer / Videographer / Colourist

Sep 2019 - Jun 2022

Bristol, UK

- Provided audio engineering, videography and colouring for clients in music, advertising, and political messaging, delivering high-quality results under tight deadlines for content with millions of impressions.

Technical Skills

Languages: PHP, 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, LLM Interpretability & Probing, Inference-Time Scaling, NLP, ETL pipelines

Projects

Uncertainty-Adaptive Inference Scaling - Final Year Dissertation

Sep 2025 – Present

- Designing an inference system that dynamically transitions reasoning LLMs from single-agent to multi-agent execution by branching at high-uncertainty reasoning steps, using unsupervised internal-state signals (CoE-C, entropy, linear probes) instead of trained process reward models — addressing three open blockers to tree search identified in the DeepSeek-R1 paper.
- Evaluating accuracy-per-FLOP against self-consistency baselines on MATH-500 and GSM8K using DeepSeek-R1-Distill-Qwen-7B, with preliminary probing results motivating step-level over token-level intervention.

raiss.ai - Co-founder, Lead Developer

Sep 2024 – Feb 2025

- Led the development of a shopping search platform, using a scalable AI agent, combining ETL pipelines, auto generated product taxonomies, NER NLP pipelines, and high-performance caching to optimize queries and product discovery.
- Technologies & Tools: Python, Go, React, Haystack, LLMs, Kubernetes, Docker, PostgreSQL, Valkey.

lowertones - Lead Developer and Agile Lead

Jan 2024 - Jun 2024

- Led a team of 7 to build a music metadata insight web-app (Spring Boot, Postgres, Angular), including custom MusicBrainz-to-Spotify ID mapping algorithms and a published dataset.

Leadership / Extracurricular

Head of Technology - BurnFM Radio Station

Sep 2022 – Jun 2024

- Led all technical operations, trained a 25-person committee; rebuilt the station website in React/Next.js, cutting load times by 84%, and upgraded broadcasting infrastructure, reducing costs and boosting presenter retention.