

Summary

Quant research and AI/data leader with a PhD in mathematics, building governed production systems across betting markets, sports data and applied AI. Current work spans live WNBA and women's-cricket model operations, a self-hosted trade execution platform, sports computer vision and an AI content product taken from prototype to first paying customer. Hands-on across modelling, data platforms and evaluation, with a track record of turning uncertain evidence into commercial decisions.

Current Roles

Independent consultancy through which I take embedded leadership roles in quant research, AI/data products and early-stage technical build-outs.

Active embedded leadership roles:

Lead Quant Researcher | SIRE | Mar 2026 – Present

- **Run live WNBA and women's-cricket model operations** for a sports-betting syndicate, combining scheduled retraining, as-of market inputs, independent price gates, shadow ledgers and fail-closed promotion controls.
- **Selected model performance (2026):**
 - **WNBA: 54.5% ROI on staked capital with controlled drawdown.**
 - **Women's cricket: 6.3% ROI on staked capital | 63.4% win rate**, fee- and slippage-adjusted.
- Built a self-hosted execution stack from market ingestion and model scoring through fee-aware decisioning, monitoring and receipts, with six isolated taker/maker shadow lanes and fail-closed promotion controls.
- Launched Alpha Link live with P&L/exposure controls; keep new lanes shadow-only until independent price, liquidity, CLV and operational gates pass.

Head of Technology and AI | Mettle Data | Apr 2026 – Present

- Lead technology and AI for a sports-data company, owning architecture, evaluation standards and model-ready dataset delivery.
- Designed the workflow from raw broadcast/event data to labelled training sets, validation packs, benchmark tasks and stakeholder-facing demos.
- Built snooker and curling computer-vision prototypes spanning calibrated scene geometry, occlusion-aware state and provisional scoring.
- **Curling evidence: 1,000 frames from 23 games**; a 218-frame automated silver audit reached **98.6% exact-state agreement** and **99.9% stone-location F1**. Defined schemas and benchmark contracts across snooker, curling and cricket.

CTO | Attimo | Dec 2025 – Present

- Own technology and product delivery for an AI sports-content product spanning match data, narrative clips, captions and editorial workflows.
- Built the architecture across event ingestion, retrieval/generation, evaluation and human review, including a poker editorial workbench that turns hand histories into ranked moments and grounded copy.
- Took the product from prototype to first paying customer, creating repeatable delivery for new sports and clients.

Selected consulting engagements

- Stint - designed forecasting-model evaluation, validation packs, golden sets and leadership reporting for labour-demand planning.
- Deeter - helped define the hiring bar, interview process and research/data platform direction for a quant analytics build-out.
- Dormotech - scoped cloud/data architecture, structured-data pipelines and analytics foundations for sleep-data products.

Skills

AI & Software Engineering	Python, Rust, SQL, TypeScript, PyTorch, OpenAI/Codex, RAG, LLM evaluation, APIs and production tooling.
Quant Research & Betting Systems	Market-anchored and neural models, copy-betting, wallet scoring, exchange execution, fee-aware taker/maker lanes and risk/exposure controls.
Backtesting & Shadow Testing	Historical and fee-adjusted replay, nested/walk-forward validation, CLV, drawdown, shadow/live testing, settlement checks and promotion evidence.
Forecasting & Time-Series	Prophet, XGBoost, LightGBM, feature engineering, uplift analysis, SaaS/labour-demand forecasting and revenue models.
Model Evaluation & Experimentation	LightGBM/NN blends, neural challengers, calibration, leakage controls, golden sets, validation packs and experiment readouts.
Data Platforms & Pipelines	Snowflake, Cloudflare R2, Parquet, BetsAPI, Postgres, Redis, incremental ingestion and analytics marts.
Cloud, DevOps & Observability	Self-hosted Linux, Docker, ECR/ECS, S3, CloudWatch, Jenkins, CI/CD, monitoring, runbooks and fail-closed controls.
Simulation & Economic Modelling	Monte Carlo, tokenomics, scenario sweeps, liquidity/collateral risk, capacity planning and stress tests.
BI & Decision Systems	Tableau, Looker, Weights & Biases, metrics layers, data-quality reviews, leadership reporting and scorecards.
Computer Vision & Annotation	Sports video labelling, YOLO/PyTorch/DirectML, projective calibration, occlusion-aware ball/stone state, QA overlays, holdouts and benchmarks.
Technical Leadership & Hiring	Roadmaps, delivery cadence, team leadership, stakeholder translation, hiring rubrics and code reviews.
Domains & Product Context	Sports betting, sports data, computer vision, football, tennis/WTB, cricket, snooker, curling, WNBA, MMA, gaming, SaaS, web3 and cloud.

Previous Work Experience

Senior Quantitative Researcher | Impossible Cloud | Nov 2024 - Dec 2025

- Led a 4-person quant and data-engineering pod on tokenomics and infrastructure, owning the roadmap, sprints and KPIs.
- Designed the class-based Monte Carlo engine (nine unlock and demand scenarios) that underpinned MVP parameter sweeps and in-silico experimentation.
- Built the Databricks-to-Tableau stack (on-chain GraphQL and CCXT feeds, under five-minute latency) and the six-view launch dashboard used in executive and investor reviews; stress tests supported a collateral uplift from 30% to 50%.
- Co-authored *Impossible Cloud Network: A Decentralized Internet Infrastructure Layer* ([arXiv:2510.04620 \[cs.NI\], 2025](https://arxiv.org/abs/2510.04620)) and a follow-on oracle-node slashing design now under journal review, both referenced in MVP documentation and investor materials.

Quantitative Researcher | Impossible Cloud | Jun 2024 - Oct 2024

- Built the first-generation token-supply, capacity and oracle-count models, then refactored them into the baseline simulators adopted in the whitepaper and MVP specifications.
- Prototyped Databricks pipelines for on-chain GraphQL and node telemetry that evolved into the production research platform.

Senior Data Scientist (Full-stack) | Marmalade Game Studios | Jun 2023 – Jun 2024

- Acted as a full-stack data scientist (ingestion -> modelling -> deployment -> dashboards) for flagship mobile titles, owning delivery from raw telemetry to decision-ready outputs.
- Led game-economy, pricing and chart-ranking analytics, running experiments and uplift models that informed live-ops and monetisation strategy.
- Built production Tableau/Python/Snowflake pipelines for player-level features and model outputs, feeding product and marketing decisions.
- Developed and maintained Prophet-based forecasting, XGBoost and other time-series models to predict revenue, engagement and campaign performance.
- Connected Google Sheets, Python and Tableau workflows so non-technical teams could inspect forecasts and model outputs directly.

Data Analyst (Data Science) | Jagex | Aug 2021 – May 2023

- Built churn, segmentation and membership/MTX pricing models for RuneScape using Python/ML, informing retention and pricing decisions.
- Designed core ETL + metric layers that powered product KPIs, experimentation analysis and stakeholder self-serve reporting.
- Partnered with product, marketing and analytics teams to translate model outputs into decisions on retention, pricing and player experience.

Early Career | Epimorphics, Tesco, Rolls-Royce | 2013 – 2021

- Built metadata-driven data products at Epimorphics, using Schema.org and FSA allergen-recall data to prototype a commercial data-quality and monitoring toolkit.
- Earlier analytical roles at Tesco and Rolls-Royce, developing VBA/SQL demand-forecasting tools, engineering-data workflows and operational reporting that laid the groundwork for later data-science and modelling work.
- Combined commercial forecasting, data-quality monitoring and engineering analysis across retail, aerospace and semantic-data environments.

Education & Research Experience

PhD in Automated Quantification of Human Islet Structure and Geometry | University of Exeter | 2016–2021

- Quantified pancreatic islet morphology under diabetes using computational geometry and time-series modelling.
- Built a reusable image-processing pipeline (bash, scikit-image, scikit-learn, ffmpeg) for segmentation, geometry extraction and time-series analysis across microscopy datasets.
- Led interdisciplinary projects (e.g. seizure prediction, microtubule growth) and presented results in internal and external talks.
- Wrote reusable analysis scripts and documentation so collaborators could reproduce measurements and extend the pipeline.

MMath (Integrated Master's in Mathematics) | University of Durham | 2011–2016

- First-class BA and 2.1 Master's; focus on computational modelling and numerical methods.
- Master's dissertation on exoplanet earthquake modelling ranked 2nd in year.

Teaching Assistant & Marker | Durham & Exeter Universities | 2015–2020

- Delivered tutorials, marked assignments and provided 1:1 support in probability, statistics and modelling, improving students' understanding of quantitative methods.
- Supported problem-solving sessions and feedback across probability, statistics, numerical methods and computational modelling.

Awards & Scholarships

- Engineers Gate Hackathon 2018 – 1st place (mathematics & computer-science challenge).
- EPSRC Summer Scholarship 2015 – funded research on thin-film delamination at Durham University.