

Garry Cotton

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EDUCATION

- **Imperial College London** London
PhD in AI and Machine Learning 2025 – Present
- **Warwick University** Warwick
MSc in Statistics; Grade: Distinction 2022 – 2023
- **The Open University**
BSc in Mathematics; Grade: First 2017 – 2021

RESEARCH EXPERINCE

- **The Charité - University Hospital** Berlin
Research Intern 2025 - 2026
 - **EEG Signal Extraction:** Developed new signal extraction method robust to heteroskedastic noise in haptic EEG data. Documenting improved power spectrum recovery and viability of relaxed experimental setups.

PROJECTS

- **Imperial College London** London
2025 - 2029
 - **Graph Neural Networks for scoring single-cell genetic health:** Research and development of bespoke graph-based representation learning methods and probabilistic graph ensemble generation from partially observed data.
 - **Automated Feature Extraction for Manifold Detection:** Researching automated feature extraction for approximate manifold detection for empirical study of the Manifold Hypothesis. 2025 - Present
 - **Python Package Development (PySPoC):** Developing package providing large-scale, configurable and extendable library of diverse dimensionality reduction methods applicable to large collections of point cloud datasets. 2025 - Present
- **Warwick University** Warwick
2023
 - **Differentiable Neural Architecture Search:** Developed extension for DARTS neural architecture search algorithm for convolutional neural networks, enabling differentiable joint search over network weights and channel selection for image-based cancer cell detection.
 - **AI-informed Approximate Bayesian Computation in Decision Field Theory:** 2023
Developed deep learning based automatic summary statistic selection method for approximate Bayesian computation applied to diffusion modeling of human decision making data.

SKILLS

- **Languages:** Python, R, C#, Java, SQL
- **Technologies:** Microsoft Azure, AWS, GCP, Apache Spark, Docker, .NET
- **Packages:** PyTorch, XGBoost, Numpy, Scipy, Pandas, Polars, MLFlow, Cython, Torch for R, Tidyverse
- **Research:** Deep Learning, Computer Vision, Neural Architecture Search, Bayesian Statistics, Optimization

PROFESSIONAL EXPERIENCE (HIGHLIGHTS)

- **Commify** Nottingham
Data Scientist 2023 – 2025
 - **Customer Churn Prediction:** Reduced year-on-year customer churn by 4% by developing PySpark churn prediction pipeline, utilizing STL decomposition for seasonal customers, Kalman filtering for interim forecast outputs and XGBoost classification ensemble over varying time horizons.
- **IRIS Software Group** Heathrow Approach, Slough
Data Scientist 2019 – 2022
 - **Customer White-Space Detection:** Improved cross-sell rates by 12% year-on-year by agglomerative clustering of kernel PCA latent customer data in Python with configurable cluster cut-offs.
- **IRIS Software Group** Heathrow Approach, Slough
Data Engineer 2017 – 2019
 - **M&A Data Ingestion Framework:** Reduced on-boarding time for new M&A data feeds by 70% by designing and developing .NET C# application providing configurable, adaptive and automated data ingestion pipelines.