Thomas **Cotter**, Computer Science with AI (MSci)

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Machine Learning Scientist in the Listing team at Depop with strong software engineering foundations and MSci in Computer Science and Artificial Intelligence (First Class Honours, University of Nottingham). Combines machine learning expertise with practical full-stack development skills, bridging the gap between data science and production systems. Demonstrates exceptional collaborative abilities and quick adaptation to new technologies. Proven track record of translating complex requirements into effective technical solutions, driven by curiosity and passion for relevant technologies that can deliver effective solutions to real problems.

PROFESSIONAL EXPERIENCE

Machine Learning Scientist | Depop   04 2025 - Present

- Working on the Listing team, with the over-arching goal of a "One Click Listing".

Data Scientist | Luxoft DXC   09 2023 - 04 2025

- Implemented enterprise-grade AI solutions, including an internal Retrieval Augmented Generation chatbot and a tool to extract structured data from unstructured documents using state-of-the-art LLMs.
- Developed a custom pipeline to finetune retrieval models (Bi-Encoders & Cross-Encoders) on client specific data, enhancing the RAG chatbot. This included a synthetic data generation tool to create training data, and using libraries like HuggingFace & ONNX to finetune and deploy models.
- Engineered production-ready LLM systems using the AWS stack (Lambda Functions, Step Functions, S3, SageMaker) ensuring scalability and reliability.
- Led knowledge-sharing initiatives through technical workshops, authored whitepapers, and published articles on AI developments for company thought leadership.

Data Scientist Intern | Luxoft DXC   06 2022 - 09 2022

- Developed an insurance fraud detection PoC, integrating Dataiku, Snowflake, Appian and Tom Sawyer for an end-to-end solution.
- Engineered an automated Python pipeline to automatically create and populate tables in Snowflake with synthetic data.
- Created complex, interconnected synthetic datasets for fraud detection in vehicle claims and ISO20022 payments, simulating realistic fraud patterns and relationships.
- Implemented CI pipelines with Jenkins to automate testing and documentation, improving development workflow.

Software Developer Work Experience | Intelligent Plant & UoN   09 2020 - 05 2021

- Worked on a collaborative project between the University of Nottingham & Intelligent Plant.
- Built a full-stack application using C# and React for an industrial IoT monitoring platform.
- Leveraged APIs to obtain real-time and historical IoT datasets from various machinery used by oil-rigs.
- Enabled analysis of usage and energy consumption data to provide an aggregated view across linked components.
- Implemented machine learning models to predict overall CO_2 emission levels, enabling proactive environmental impact management.

IT Department Work Experience | Deutsche Bank   06 2018 - 06 2018

- Delivered a Python-based solution that successfully predicted client defaults on business loans, based on historical data and trends.
- Produced a research paper on how Artificial Intelligence using large IoT datasets could improve future 'smart-cities', including transport effectiveness, energy utilisation and leisure facilities.

EDUCATION

University of Nottingham | Computer Science with AI MSci   09 2019 - 06 2023

- Achieved First Class Honours in Computer Science with Artificial Intelligence MSci.
- Produced a dissertation on detecting Diabetic Retinopathy using computer vision.
- Wrote papers on neuro-evolution for Atari games and building SMOTE algorithms for use in PySpark.

Teddington School Sixth Form | A Levels   09 2017 - 07 2019

- A Levels - Maths, Physics, Computing (A*AA)

Teddington School | GCSEs   09 2012 - 07 2017

- 10 GCSE's - all grade B and above - including 9 in Mathematics and 6 in English.