Matthew Stewart

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EDUCATION

Queen's University Belfast   Belfast, United Kingdom
Bsc Computer Science   *Sep. 2021 - June 2025*
- **First Class Honours**
- Areas of focus: Artificial Intelligence, Machine Learning, Cloud Computing & Software Development

Monaghan Collegiate School   Monaghan, Ireland
Leaving Certificate   *Sep. 2015 - June 2021*
- 566 points
- Areas of focus: Maths (H2), Business (H1), Biology (H1), French (H2), Home Economics (H2), English (H3)

EXPERIENCE

Cyber-AI Research Engineer   June 2025 – present
Centre for Secure Information Technologies (CSIT)   *Belfast, United Kingdom*
- Tested the security and alignment of AI language models in agentic workflows to identify and report on potential security concerns in production environments.
- Simulated adversarial attacks (e.g., GCG jailbreak, prompt injection, privilege escalation) to demonstrate novel high risk attack vectors.
- Developing a post-deployment monitoring system for AI agents to provide protection against adversarial attacks.

Software Engineering Intern   June 2023 – June 2024
Rapid 7   *Belfast, United Kingdom*
- Developed an AI-powered vulnerability detection tool that cut manual analysis time by over 93% (15 min to < 1 min), enabling security coverage for 10,000+ customers against critical CVEs.
- Resolved customer facing issues and developed backend components for the InsightVM platform, improving user experience and system reliability.
- Collaborated in an agile team, participating in daily stand-ups and bi-weekly sprint planning.

Student Demonstrator   Sep. 2024 – Dec. 2024
Queen's University Belfast   *Belfast, United Kingdom*
- Provided hands on guidance and academic support for undergraduate students studying computer science.

PROJECTS

TradeLoop | *NextJS, TypeScript, Python, PostgreSQL, AWS* 🔗   2025 - 2026
- Developing a smart field service management software for tradespeople in the UK and Ireland
- MVP in final stages of development

Promptability | *Python, Typescript, React, Docker, Firebase (NoSQL)* 🔗   2025
- A user friendly application for testing LLMs on industry benchmarks (e.g., Facebook CLUTTR)

Artificial Neural Network for Automated Fake Review Detection | *Python, Tensorflow, Keras* 🔗   2025
- Created and compared multiple neural network architectures (RNN, LSTM) to distinguish between human written and AI generated reviews, applying optimisation techniques to maximise performance
- The final LSTM-RNN model achieved 90% accuracy and 93% recall with an AUC score of 0.98

Automated facial detection | *Matlab* 🔗 🔗   2024
- Evaluated multiple feature extraction techniques (HOG, LBP, Gabor, edge detection) and classification algorithms (SVM, Random Forest, KNN, Logistic Regression) for automated facial detection.
- Implemented a sliding window detection algorithm with non-maxima suppression and multi-scale processing to achieve facial detection in complex group photographs.

TECHNICAL SKILLS

Languages: Python, Java, Typescript, PostgreSQL/NoSQL, HTML, CSS
Frameworks & Libraries : Nextjs, FastAPI, Springboot, Tensorflow, Keras, Hugging Face, AI security, Responsible AI
Developer Tools: Git, Docker, Kubernetes, Postman, Coolify, AWS