Matteo Melis

Belfast, United Kingdom | matteo.d.melis@gmail.com | LinkedIn | GitHub | Personal Site

EDUCATION

Queen's University Belfast   Belfast, UK
PhD, Computer Science   *Oct. 2025 – Oct. 2028*
- Areas of interest: AI Security, Formal Verification of AI, Certified Defense.
- Developing certified training methods towards **provable robustness against adversarial attacks**.

Bsc Mathematics and Computer Science 🔗   *Sep. 2021 – June 2025*
- **First Class** honours, final weighted average **89.3%**
- Areas of focus: Artificial Intelligence, Concurrent Programming, Abstract Algebra and Financial Maths.

Coláiste Cholmcille Ballyshannon   Donegal, Ireland
Leaving Certificate   *Sep. 2014 – June 2021*
- Secured **maximum score** of **625 points**, graduating amongst top 2.3% of cohort.
- Achieved **100% in Maths** Paper 1 and six H1's in Applied Maths, Physics, Accounting, Business, and English.

EXPERIENCE

Advanced Micro Devices (AMD)   June 2025 – Sep. 2025
AI Software Developer Intern 🔗   *Dublin, Ireland*
- Contributed to development of AMD's Quark library for **AI quantization.** *(Python, PyTorch, transformers)*
- Implemented state of the art **post training quantization research paper** (Qronos) into codebase. ⭕
- Added support for packing and unpacking of (pseudo) int3 quantized weight tensors. ⭕

VISA Inc   June 2023 – Sep. 2024
Software Engineering Placement   *Belfast, UK*
- Contributed to development of 14 endpoints for **Visa's Merchant API** and screens, enhancing user experience and reliability for **10,000+ merchants** globally. *(Java Springboot, ReactJS, OracleSQL, Jenkins)*
- Progressed an **innovation initiative** to migrate a server-based development application to **containerised** platform. *(Kubernetes, Helm Charts, Docker config)*

Engineering Documentation Ltd   June 2022 – Sep. 2022
Automation Engineer Intern   *Sligo, Ireland*
- Eradicated need for **£2,000** software subscription by creating a more extensive, customisable and reliable service embedded into modelling software through **Python** and pyRevit API.
- Received **BIM Hero token** of appreciation for "outstanding work and integrating (Python) programs into Revit"

Online Mathematics Tutor   Jan. 2022 – Present
Self Employed - Part Time
- Delivering tuition to Higher Level Leaving Certificate Maths students, guiding 20+ students to their desired grade.

ACHIEVEMENTS & EXTRA-CURRICULAR'S

Academic Prizes | *Queen's University Belfast*   June 2025
- Recipient of The Thomas Wray prize - **top performing student** on BSc **Pure Mathematics** pathway.
- Recipient of The Brian Conlon **Financial Mathematics Prize** - awarded for **highest mark** (**92%**) in Financial Mathematics, competing against 80 other final year students.

Q-Camp Quantum Summer School | *University of Gdańsk* 🔗   Sep. 2024
- Graduated from prestigious summer school of **25 ambitious scholars** from all over the world.
- **Quantum Hackathon winner**, best concept category, proposing quantum-safe modification of DNSSEC.
- Learnt key concepts from leading experts in **Quantum Information Theory**.

Queen's University Hackathon Winner | *Python, Softr, Streamlit, powerBI, GitHub*   Dec 2022
- Prompted with rising cost of living crisis, developed a web-application acting as a **Data Analysis tool**, highlighting 4 key drivers contributing to crisis.