

Oliver Toparti

Security Researcher / AI Systems & Cyber-Physical Security

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PERSONAL PROFILE

Researcher and security engineer specialising in AI-enabled systems and cyber-physical infrastructure, with published research in connected medical device security and NHS policy. Background spans full-stack engineering, machine learning integration, and security governance across e-commerce, healthcare, and regulated environments. Seeking to pursue doctoral research on the security of AI-enabled medical devices, building on this applied and academic work.

EDUCATION

MSc Security and Resilience (Physics), Imperial College London

September 2023 – September 2025

- *Grade:* Distinction
- *Awards & Achievements:* Amongst top 5% of cohort (23/24), Institute for Security Science and Technology (ISST) Scholarship Recipient, Student Representative (24/25 cohort).
- *Relevant modules:* Network and Web Security, Cyber-Physical Systems Security, Electronic and Natural Sensors, Infrastructure and Transport Security, CBRNE (Chemical, Biological, Radiological, Nuclear and Explosives) Security.

BSc Cybersecurity, Coventry University

September 2020 – July 2023

- *Grade:* First Class Honours
- *Awards & Achievements:* Course Tutor's Prize for Best Overall BSc Project, Undergraduate Student of the Year Nominee, Put forward for Dean's Award (Faculty of Engineering, Environment and Computing).
- *Relevant modules:* Reverse Engineering, Computer Systems and Networks, Web Security, Practical Cryptography, Practical Pen-Testing, Programming & Algorithms, Applied Forensics, Security Management.

PUBLICATIONS

Cybersecurity in Connected Medical Devices: A Policy Agenda for the NHS

Published March 2026

Toparti, O., Rajput, K., Darzi, A. & Ghafur, S. (2026). npj Digital Medicine 9, 204. Comment, Nature Portfolio.

- Lead and corresponding author. Proposed a cross-layer (physical, network and cloud) risk framework for connected medical devices in NHS infrastructure, with recommendations to the MHRA on secure-by-design development, Software Bills of Materials (SBOMs) and RACI accountability.
- 7,500+ accesses; top 9% of all tracked articles of similar age by Altmetric attention (84th percentile within *npj Digital Medicine*); covered by Digital Health. DOI: [10.1038/s41746-026-02534-4](https://doi.org/10.1038/s41746-026-02534-4).

RESEARCH IN PROGRESS

Effectiveness of Cybersecurity Measures in Connected Diabetes Management Devices for Enhancing Patient Safety and Data Protection

June 2025 – Ongoing

Toparti, O., Rajput, K., Darzi, A. & Ghafur, S. Systematic review, protocol registered on PROSPERO (CRD42025639477).

- Systematic review assessing the effectiveness of cybersecurity interventions in Continuous Glucose Monitoring (CGM) systems and insulin pumps. Contributed to study design, search strategy, and risk-of-bias assessment (RoB2/ROBINS-I) using Covidence, focusing on patient safety and data protection.
- Coordinated research across the Institute for Security Science and Technology and the Institute of Global Health Innovation, Imperial College London. Protocol: [PROSPERO CRD42025639477](https://www.prospero.io/CRD42025639477).

PROFESSIONAL EXPERIENCE

Full Stack Developer, First Class Watches Ltd

June 2023 – Present

- Migrated a legacy WooCommerce site to a Next.js (React), Laravel (PHP) and FastAPI (Python) stack, integrating APIs including Amazon SP-API, Stripe, Royal Mail and DPD. Currently building ChronoAI, an LLM-based text-to-SQL assistant (OpenAI/Anthropic APIs, LangChain) for internal reporting.

- Drove platform changes and tuning which contributed to revenue growth from £190k to £485k (+155%) without increased marketing spend.

Founder & Lead Security Engineer, CYBNODE Ltd

July 2021 – Present

- Founded CYBNODE, a cybersecurity technology startup that began as a web development business during the COVID-19 pandemic and has since evolved into a London-based AI product security consultancy, also delivering secure software and DevSecOps services.
- Building Stravok, CYBNODE's DevSecOps platform that reduces audit effort for GDPR, SOC 2 and ISO 27001: stravok.cybnode.com.
- Successfully completed 25+ client projects, scaling the company's offerings from simple websites to robust, end-to-end secure software and web applications.

OTHER ACTIVITIES

Alumni Advisory Board Member, College of Engineering Environment and Science, Coventry University

January 2026 – Present

- Providing strategic industry insight to inform curriculum development in engineering and computing programmes.
- Advising academic staff on emerging technologies, industry trends, and employability skills.
- Supporting alignment of degree programmes with professional and employer requirements.

Co-Organiser, Trust Everything, Everywhere (Programme Development), Advanced Research + Invention Agency (ARIA)

December 2025 – March 2026

- Co-authored and submitted the successful application for a government contract to support the programme discovery and approval-preparation phase of ARIA's "Trust Everything, Everywhere" initiative. ARIA is a non-departmental public body sponsored by the UK Department for Science, Innovation and Technology, responsible for high-risk, high-reward R&D.
- Provided expertise in cybersecurity, cyber-physical systems, and secure AI through work delivered in partnership with the Society for Technological Advancement (SoTA).
- Supported technical scoping, stakeholder engagement, and early programme design ahead of formal solicitation.

ADDITIONAL INFORMATION

- Dual British-Hungarian citizen with unrestricted right to work in the UK and the EU, and long-term residency in both (10+ years).
- Selected by *PricewaterhouseCoopers (PwC) Hungary* for an Associate 2 role after presenting a cyber advisory proposal on OT risk prioritisation, governance uplift, and security maturity across multinational operations.

REFERENCES

- Dr William G Proud, Course Director of Security and Resilience, Department of Physics, Imperial College London - w.proud@imperial.ac.uk.
- Dr Dan Goldsmith, Course Director of Cybersecurity, College of Engineering, Environment and Science, Coventry University - aa9863@coventry.ac.uk.