Jonathan Francis Roscoe

PhD, MEng, CEng, MBCS, CISSP

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Experienced cyber security research leader externally recognised through awards, publications, and appointed roles.

My ambition is to deliver gap-closing innovation, creating wold-leading capabilities that differentiate us from the rest of the market. I deliver a fresh perspective and find creative solutions to challenging technical problems. I have a breadth of technical experience and knowledge, driven by an enthusiasm for breaking new ground.

I am recognised as an Accomplished Engineer in BT's Technology Fellowship. Externally, I hold the positions of Chair for the IEEE UK & Ireland Cyber Security chapter and Expert Fellow for the Security, Privacy and Trust Engagement network (SPRITE+).

PROFESSIONAL EXPERIENCE

2024 - present **CTO Data & AI, Global Secure Solutions**, BT plc.

Delivering a complex portfolio of bespoke data, cyber and AI capabilities to government customers.

I work to build strategic relationships that allow us to deliver innovation to critical mission areas, working with customers across design, delivery and in-life experience. I am accountable for an ambitious revenue growth target, working to provide continued value in an ever changing technology landscape.

2021 - present **Technical and Scientific Advisor**, Ministry of Defence

As a recognised expert in the areas of cyber security, AI & machine learning and cryptoassets, I provide technical knowledge and insight to the Defence Science Expert Committee (DSEC), the MOD's main source of independent advice on non-nuclear science and technology issues.

2022 - 2024 **Senior Research Manager, Future Cyber Defence**, BT plc.

As a senior technical leader, I was responsible for managing teams of researchers delivering innovation in cyber defence for BT and its customers. Working across the business to shape future work and identify downstream opportunities. Delivering research over short, medium, and long-term horizons anresponding rapidly to business interests to exploit our research for the benefit of BT. Driving BT's reputation as an innovation leader, with over 50 patent filings and publications.

2018 - 2022 **Emerging Security Research Manager**, BT plc.

I led a team of researchers delivering machine learning innovation to internal, industry and government stakeholders. My research explored disinformation in the role of 5G related arson and the application of natural language processing to knowledge extraction from threat intel reports. In addition to technical delivery and project management,supervised researchers colleagues and doctoral candidates, managing calls for funding and contributing to industry working groups.

2016 - 2018 **Senior Researcher**, BT plc.

I was responsible for downstream support and software engineering expertise for Saturn, the visual analytics component of BT's cyber platform. I engaged with national government and enterprise customers, gaining hands-on experience within particularly stringent security constraints.

ACADEMIC HISTORY

2011 - 2018   **Computer Science PhD**, Aberystwyth University

Funded by the Prostate Cancer Charity and Hoover Foundation, the title of my thesis was *"Automatic Diagnosis of Prostate Cancer with Statistical Models"*. My research looked at the modelling of disease using a prior cohort along with the use of structural features in supervised machine learning for detection of prostate cancer in MRI.

2006 - 2011   **Software Engineering MEng**, Aberystwyth University

A BCS-accredited degree with an emphasis on enterprise engineering, I undertook a thesis titled *"Bilateral Comparison of Breast Tissue Density by Using Grey-Level Statistics in 2D Mammograms to Identify Regions of Abnormality"* and graduated with First class honours. As a committee member of the BCS Mid-Wales branch I established a variety of events to encourage innovation, knowledge sharing and skill development.

AWARDS

- 2022 E&T Best Innovation in Cyber Security and Information Assurance
- 2020 E&T Excellence In Cyber Security
- 2020 IEEE ISI Best Presentation Award
- 2018 ITP Innovator of the Year Award

SELECTED PUBLICATIONS

- M.F. Zia, S.H Kalidass and J.F. Roscoe, "Semi-supervised Adversarial Network Threat and Anomaly Detection System", *BCS AI-2023 International Conference on Artificial Intelligence*
- J. F. Roscoe, "Cryptocurrency Analytics", *The Journal of the Royal Signals Institution, Volume 40 Issue 2, Royal Signals Institution*
- J. F. Roscoe and M. Smith-Creasey, "Unconventional Mechanisms for Biometric Data Acquisition via Side-Channels", *SIN '20: 13th International Conference on Security of Information and Networks*
- J. F. Roscoe, O. Baxandall and R. Hercock, "Simulation of Malware Propagation and Effects in Connected and Autonomous Vehicles", *2020 International Conference on Computing, Electronics & Communications Engineering*

SELECTED PATENTS

- "Infection in a Communications Network", GB2302201.5, 2023
- "Wireless Network Monitoring Using UAVs", GB2214186.5, 2022
- "Improvements to digital transactions using quantum technology", PCT/EP2021/057298, 2020
- "Data interception protection", PCT/EP2021/054386, 2020
- "Anomalous behaviour detection in a distributed transactional database", PCT/EP2019/085913, 2019

PERSONAL INTERESTS

Passionate about technology and self-taught from a young age, I am a versatile programmer and engage in personal projects to develop my skill set such as amateur radio, prop making and freestyle quadcopter racing. This includes electronics engineering and microcontroller programming. I also enjoy tabletop role playing games, computer games and travelling.