Scholarship Project Title	Unmasking AI-Generated Deepfakes: Understanding, Detecting and Mitigating Deepfake-related Threats to the Digital Security of Insurance Organisations.
Advert Reference number	**TURISE_2024_102**
Supervisor(s)	Dr Keara Barrett (SETU Carlow), Dr Chris Staff (SETU Carlow), Dr Oisín Cawley (SETU Carlow) and Mr Barry Kelly (Sun Life, Waterford).
Research Group	compuCORE
Department /School/Faculty	Faculty of Science
Duration	4 Years (48 Months)
Status: Full-time / part-time	Full Time
Funding information	SETU TU RISE PhD Scholarship Programme 2024 TU RISE is co-financed by the Government of Ireland and the European Union through the European Regional Development Fund
Value of the scholarship per year for fur years	Stipend: €19,000 per annum Fees of €5,750 per annum Research costs- €5,000 per annum with an additional €1,650 awarded for the purchase of a laptop in year 1
Closing date and time	**17ᵗʰ July 2024 at 4pm Irish Time**
Interview date	**TBD**
PhD commencement date	**Autumn 2024**

Project Key Words: *Deepfakes, Artificial Intelligence (AI), Cybersecurity*

Post summary
Synthetic media is any media (including images, videos, or audio) which have been created or modified using Artificial Intelligence (AI) algorithms. While synthetic media may offer benefits, including increased creative expression or enhanced organisational productivity and customer engagement, there is also considerable potential for misuse. The emergence and continued evolution of synthetic media, notably deepfakes, poses a growing challenge for insurance organisations. Deepfake techniques may be used to proliferate misinformation and accelerate attempts at identity theft or fraud. This study aims to (i) understand the underlying mechanisms of evolving deepfake technology, (ii) integrate and/or develop advanced deepfake detection procedures to verify media provenance and (iii) propose tailored, decentralised strategies to mitigate deepfake-related threats to the digital security of insurance organisations. In this way, the research study aims to bolster the digital resilience of insurance organisations, safeguard sensitive data, and protect stakeholders' trust.

This PhD study includes a 12-week work placement with industry partner Sun Life. The work placement will enable collaboration with Sun Life's cybersecurity team to finalise a test framework and to establish deepfake detection procedures specific to the insurance sector.

Knowledge & Experience

Essential
- Honours degree (minimum Second Class Honours, Grade 1) in computing or cognate discipline.
- Strong background in artificial intelligence and/or cybersecurity.

Desirable
- MSc in computing or cognate discipline.
- Research experience (e.g., data collection, analysis, report writing, oral presentations, posters).
- Experience in an industry or academic R&D environment.

Skills & Competencies

Essential
- Applicants whose first language is not English must demonstrate on application that they meet SETU's English language requirements and provide all necessary documentation. See Page 7 of the Code of Practice.
- In order to be **shortlisted for interview,** you must meet the SETU English speaking requirements so please provide evidence in your application.
- Excellent interpersonal, communication and organisational skills.
- Strong analytical and problem-solving skills.
- Motivated and capable of working independently.
- Strong team player who is committed to the highest professional standards

Further information

For any informal queries, please contact Dr Keara Barrett on email keara.barrett@setu.ie

For queries relating to the application and admission process, please contact the Postgraduate Admissions Office researchadmissions@setu.ie or telephone +353 (0)51 302883.

For queries relating to the funding programme, please email scholarships2024@setu.ie

University Website https://www.setu.ie/

Application procedure

Download the Research Postgraduate Application Form from here and return the completed application to researchadmissions@setu.ie quoting **advert reference code TURISE_2024_102** in the email subject line.

Please note that paper submissions will not be accepted.

The University may decide to interview only those applicants who appear from the information they provided, to be the most suitable in terms of experience, qualifications and other requirements of the post.

The University will short-list and interview those applicants who provide the most suitable information in terms of experience, qualifications and other requirements relevant to the scholarship.

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