**PhD Scholarship Advertisement**

Fully Funded PhD Scholarship in Multimodal User Authentication and Personalization at the [Center for Computational, Cognitive and Connected Imaging](https://www.universityofgalway.ie/c3i/) (C3I).

Application(s) are invited from suitably qualified candidates for full-time funded PhD scholarship(s) starting from March 2024 affiliated to the College of Science & Engineering at the University of Galway.

**University of Galway**

Located in the vibrant cultural city of Galway in the west of Ireland, the University of Galway has a distinguished reputation for teaching and [research excellence](https://www.universityofgalway.ie/our-research/)

For information on moving to Ireland please see [www.euraxess.ie](http://www.euraxess.ie)

**Detailed Project Description**

This is one of 3 Ph.D. positions on the PRIVI-SENSE project to reinvent today’s computational imaging as a privacy-secured method of sensing human subjects. Positions are available from Jan 2024.

This Ph.D. research topic will explore the extension of existing embedded, in-device authentication methods, based on conventional imaging, to employ methods based on multi-modal imaging data. An additional objective of this research will be to determine some unique advantages of multimodal authentication over conventional imaging and to personalize some of the sensing methods explored in the PRIVI-SENSE project. Based on our most recent research work, it is likely that this research topic will focus on the use of event-cameras combined with sparse/spiking neural network architectures for authentication and personalization. This research topic may also encompass speech analysis to enhance computer-vision based sensing and authentication. (C3I has built significant know-how on child speech analysis and synthesis in the past 3 years).

A key end goal is to advance the use of smart-sensing in support of smart-city and smart-home use cases, including home workers.

A more complete description of the project work and related Ph.D. and postdoctoral opportunities is available here: <https://www.universityofgalway.ie/c3i/vacancies/>

**Living allowance (Stipend):** €22,000 annual stipend (tax-free). Tuition fees are paid.

**Academic Entry Requirements:** Candidates must have a top honours grade in Electronic Engineering or Computer Science and completion of a relevant Masters degree or 5-year degree program is desirable.

In addition prospective candidates should have some background and experience in:

* State-of-Art Neural Architectures/Models for Computer Vision
* Fine-tuning or customization of one or more Neural Network Models (i.e. significant re-training or re-programming of the neural model)

Also Desirable to have experience in one or more of the following:

* Designing and running experiments with well-defined research outcomes
* Working with complex neural architectures (e.g. GANs, Transformers, Diffusion Models, etc)
* Working with multi-modal imaging data (e.g. NIR, LWIR or Event Cameras).
* Working on *advanced* data augmentation or *learned* augmentation techniques to support re-training of neural models
* Techniques for implementation of neural architectures on embedded systems or in hardware (e.g. FPGA, tinyML, network compression, sparsification, etc)

**To Apply for the Scholarship:** Send e-mail directly to [peter.corcoran@universityofgalway.ie](mailto:peter.corcoran@universityofgalway.ie) marking “PRIVI-SENSE Ph.D. #1” in the e-mail. Kindly apply for the opportunity best aligned with your experience & interests. DO NOT apply for more than one position.

**Contact Name:** Prof. Peter Corcoran

**Application Deadline:** open until all positions filled

**Primary Supervisor:** Prof. Peter Corcoran