



School of Computing, Engineering, and the Built Environment Edinburgh Napier University

PHD STUDENT PROJECT

Funding and application details

Funding status: Self funded students only

Application instructions:

Detailed instructions are available at <https://blogs.napier.ac.uk/scebe-research/available-phd-student-projects/>

Prospective candidates are encouraged to contact the Director of Studies (see details below) to discuss the project and their suitability for it.

Project details

Supervisory Team:

- DIRECTOR OF STUDY: Sana Ullah Jan (Email: S.Jan@napier.ac.uk)
- 2ND SUPERVISOR: Bill Buchanan

Subject Group: Cyber-security and system engineering

Research Areas: Artificial Intelligence and Cyber Security

Project Title: Multi-modal machine learning for cybersecurity

Project description:

With the time, the intruders are becoming more intelligent with higher ability of attacking networks without being identified. Multi-modal machine learning-based intelligent intrusion detection systems must be designed to identify stealthy and adversarial cyber attacks. Learning different representations of attack features will provide higher capabilities of distinguishing between the legitimate event and the illegitimate pattern. However, these advances should be developed within the limited resources of IoT such that a trade-off between computational complexity and efficiency of the system is achieved.

Perspective applicants are encouraged to contact the Supervisor before submitting their applications. Applications should make it clear the project you are applying for and the name of the supervisors.

References:

Candidate characteristics

Education:

A first-class honours degree, or a distinction at master level, or equivalent achievements in Engineering, Computer Science, or Statistics

Subject knowledge:

- Computing Fundamentals
- Programming C/C++, Python, Java, Matlab or any other relevant tool

Essential attributes:

- Committed to pursue higher education in the field
- Motivated to do PhD
- Eager to work on development of solutions for today's problems