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: Dr Dubem Ikediashi (Email: D.Ikediashi@napier.ac.uk)
- 2ND SUPERVISOR: Dr Andrew Smith

Subject Group: Built environment

Research Areas: Architecture, Building & Planning

Project Title: Development of an AI-enabled tool for managing post-covid risks in UK healthcare system

Project description:

The erstwhile vibrant nature of the global health systems was temporary brought to its knees by the outbreak of COVID 19 pandemic in the early days of 2020. According to the World Health Organisation, the whole of world's healthcare industry was brought under intense pressure stretching others including UK's NHS beyond its capacity. As of February 2023, over 758 million cases have been confirmed while over 6.8 million deaths have been reported globally. The pandemic brought to fore the apparent lack of preparedness, resilience and flexibility in organisational structure of hospitals and healthcare systems generally. This is to the extent that despite the significant rate of infections and deaths on a global

scale, hospitals have continued to face high demand for services as they try to catch up with the backlog of patients who have had to postpone non-urgent procedures or appointments due to the pandemic on one hand, and post covid medical complications on another.

The clamour by healthcare organisations for efficient post covid risk management has highlighted the need for decision-support tools to help them become more resilient to post covid related risks. This PhD studentship offers an exciting opportunity to conduct research regarding the development and implementation of AI-enabled tool for managing healthcare risks. In this context, the successful candidate will be expected to engage with strategic healthcare organisations within the NHS involved in the provision of healthcare to collect and analyse both qualitative and quantitative data within a range of case-studies in the healthcare sector.

Applicants should submit a more detailed proposal that expands the broad outline given above. They are encouraged to contact the supervisor to further explore and discuss their proposal before submitting their application.

References:

Candidate characteristics

Education:

A first-class honours degree, or a distinction at master level, or equivalent achievements in Construction Management, Facilities Management, Building, Architecture, or a related discipline.

Subject knowledge:

- Software Engineering

Essential attributes:

- Good degree (minimum of 2.1) in Construction Management, Facilities Management, Building, Architecture, or a related discipline.
- A background in Python programming language.
- Use of multi-decision making analytical tools such as AHP, ANN, etc.
- A background in artificial intelligence and machine learning and optimisation
- A background in healthcare facilities management systems
- Good written and oral communication skills

Desirable attributes:

- Honest, humble, passionate, team player, hardworking, good conduct, and self-motivated
- Ability to do research independently with minimal supervision