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

PHD STUDENT PROJECT

Application instructions:
Detailed instructions are available at :
https://www.napier.ac.uk/research-and-innovation/doctoral-college/how-to-apply

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 Simon Wells (Email: s.wells@napier.ac.uk)
- 2ND SUPERVISOR: tbc

Subject Group: Computer science

Research Areas: Artificial Intelligence

Project Title: Advancing the state of the art in Argument Mining

Project description:

Argument mining is the automatic identification and extraction of argumentative structure from within real world textual resources such as Web pages, Internet discourse, legal documents, or newspaper articles.

One of the challenges of argument mining is to construct a plausible model of argument structure that accurately reflects the argument made by the original author as there can be multiple different interpretations. Similarly, there are many techniques that individually identify different aspects of arguments but no single technique that can successfully and reliably mine arguments from arbitrary natural language resources. Furthermore, existing approaches do not explicitly take account of the defeasible nature of argument interpretation, that each technique might provide evidence to support or reject a specific argumentative interpretation of the source text.

This project will involve a detailed study of the structure of natural language arguments and evaluation of existing natural language understanding and machine

learning techniques applied to argument mining in order to build a state of the art theoretical and applied model of Argument Mining. The novel contribution will be the construction of an evidence based, defeasible model of mined argument in which the evidence supporting each interpretation comes from the output of a suitable ensemble of argument mining techniques.

Candidate characteristics

Education:

A second class honour degree or equivalent qualification in Software Engineering, Computer Science, Machine Learning, Artificial Intelligence

Subject knowledge:

- Artificial Intelligence

Essential attributes:

- Knowledge of Artificial Intelligence
- Good written and oral communication skills
- Strong motivation, with evidence of independent research skills relevant to the project
- Good time management