PgDip/MSc Computational Intelligence

Staff member Interview

Introduce Yourself

My name is Girijesh Prasad. I am Professor of Intelligent Systems in the School of Computing Intelligent systems. I teach the Computational Intelligence techniques module in the PgDip/MSc Computational Intelligence course.

Brief description of the course

This specialist masters course aims to provide postgraduate education and training in the concepts and methods of computational intelligence and their wider applications in industry. It also aims to provide a platform for graduates to embark on further research studies, or a leadership role in the design and development of computational intelligent systems.

Inspired by complex problem solving abilities of biological systems, computational intelligent systems are designed to emulate learning, adaption, reasoning, and evolutionary processes mainly through fusion of soft-computing techniques of neural computation, fuzzy logic, evolutionary computation, and probabilistic computing. In today’s highly connected digital world with easy availability of highly powerful computing resources, appropriately designed intelligent systems have immense potential to bring about transformative change in several data-intensive application areas, such as brain-computer interfacing and assistive technology, personalised medicine, surveillance, and smart grid.

The computational Intelligence course is offered through 6 taught modules and a research based project. The theoretical & conceptual underpinning in computational intelligence is provided through two taught modules on Computational Intelligence Techniques and Artificial Intelligence. A module on Computational Neuroscience trains students to create and interpret computational models of important components of the biological brain and understand biological information processing. A module on Activity Modelling and Recognition trains students in applying computational intelligence for remote activity monitoring and recognition with a view to designing assistive systems for independent living.

The modules on Research methods and Research Practice & Applications introduce students to a range of techniques and skills needed for the organization, management and implementation of a successful research project. Finally students work on research project of their choice over four months.

Who is the course suited to?

Applicants must hold a degree or equivalent in Computing or Engineering or a related discipline or demonstrate their ability to undertake the course through the accreditation of prior experimental learning.

Why is this course different/ special/unique?

Computational intelligence is a very promising high technology area specially in the age of big data. Students will be prepared for developing computationally intelligent systems such as intelligent analysis of big data. The course is taught by senior faculty members who are internationally renowned researchers in their field of expertise. The year-end project is highly research driven and students are required to write a publishable research article based on their project work. Course can be taken up on both part-time and full time basis.
Have students taken exciting placements?

This is the first year of the course. Although there is no formal placement requirement within the course, the students maybe able to undertake their final project as part of their industrial placement.

Is there flexibility to choose different subjects within the course structure?

Although all students are required to study the same set of modules, there maybe flexibility in terms of choosing research topics for coursework within some taught modules, and in the year-end module, every student chooses a different topic of his/her choice for independent research.

Why do you think a student should apply to this course?

The proposed course will enable graduates to embark on a professional career in computing with the high level technical skills needed to contribute to the rapidly changing computing sector and specially to data-intensive industries. Students from this course would be eligible to directly enter graduate employment or to proceed to further study at PhD level. There is currently a high demand for computing graduates, particularly those with the high level skills provided by the course. A number of graduates from our similar previous master’s programme on MSc in Computing and Intelligent systems subsequently enrolled as PhD students and have moved on to research and academic positions. Many graduates have joined companies based locally such as Citi, AllState, Fujitsu and Prumerica. In fact all our courses have demonstrated that 100% of all graduates obtained employment/further study within 6 months of completing their programme.

Contact for more information

Students can contact me for more information. My contact details are available at http://www.ulster.ac.uk/staff/g.prasad.html