

PhD Project Proposal

School of Electronics, Electrical Engineering and Computer Science

Proposed Project Title: Evolving Intelligent Behaviour in Cooperating Robots (EvoBots)

Principal Supervisor: Prof Seán McLoone

Second Supervisor: Dr Wasif Naeem

Project Description: Achieving robust humanoid robot locomotion control, reliable localisation and perception/mapping of the environment, and effective cooperation towards common goals are three key problems in the field of mobile robots. These are especially challenging when working with resource constrained partially observable dynamic environments, a situation which is increasingly the case today as market forces drive developments in robotics toward flexible, low cost humanoid units. This research project will seek to extend a number of recent developments in evolutionary computation techniques to the multi-agent domain and investigate how best to combine these extensions with efficient reinforcement learning algorithms and heuristics in order to achieve efficient on-line learning, adaptation and cooperation in multiple-robots with limited computational capabilities.

A 2:1 or higher honours degree in Electrical and Electronic Engineering or other relevant discipline (e.g. Computer Science, Mechanical Engineering, Applied Mathematics) is essential. A strong mathematical background and programming skills are also desirable.

Contact details

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