Multi-Agent Reinforcement Learning for Game AI and Robotic Control - EPSRC NPIF PhD studentship in partnership with Accelerated Dynamics

University of York

Qualification type: PhD
Location: York
Funding for: UK citizens and EU citizens who have resided in the UK for the past three years (EPSRC eligibility requirements apply)
Duration: Funding is available for a minimum of 3 years and up to a maximum of 4 years
Funding amount: Full coverage of tuition fees and annual stipend at RCUK rate ie £14,553 for 2017/18
Hours: Full Time

Placed on: 30 June 2017
Closes: 30 July 2017

The project

The Internet of Things and connected devices are creating opportunities for increased automation. We are progressing to a point where everything is connected (from the smallest sensor to self-driving cars and aerial drones) but the way we interact with each of these is currently limited to one-one interactions.

This project will research and develop multi-agent reinforcement learning algorithms for controlling swarms of agents, enabling an individual to control vast numbers of connected devices simultaneously.

These algorithms will initially be tested in Starcraft to enable rapid iteration. Later in the PhD, using Accelerated Dynamics robotic platform, these algorithms will be tested in real world scenarios with swarms of aerial drones.
Research supervision

If successful, you will conduct your research under the supervision of:

- Dr Sam Devlin, Research Fellow / Lecturer in Artificial Intelligence and Games.
- Professor Peter Cowling, Director of The Digital Creativity Labs and the Centre for Doctoral Training in Intelligence Games and Game Intelligence.
- Accelerated Dynamics (based in London).

You will be part of a large and internationally leading team who specialise in games and artificial intelligence. The team has a substantial track record in industrial-academic research, and have been very successful at delivering research results into commercial games. The team includes 23 permanent members of academic staff and 10 post-doctoral research associates within the Digital Creativity Labs, and currently 34 PhD students in the closely linked centre for doctoral training. The team is highly supportive and encourages cross-project collaboration, especially on joint publications and developing new research projects. You will collaborate closely with roboticists at Accelerated Dynamics, and there may be opportunities to spend time at their offices to maximise the two-way knowledge transfer between the student and the staff at Accelerated Dynamics.

Award funding

If successful, you will be supported for a maximum of four years. Funding includes:

- £14,553 (2017/18 rate) per year stipend
- Home/EU tuition fees
- RTSG (training/consumables/travel) provision

Funding requirements

To be considered for this funding you must:

- meet the entrance requirements for a PhD in Computer Science
- be eligible to pay home/EU fees and be able to meet the EPSRC requirements: https://www.epsrc.ac.uk/skills/students/help/eligibility/*

* EU applicants who do not meet the EPSRC residency requirements can apply to be considered for a fees only award

We will look favourably on applicants that can demonstrate knowledge of machine learning (especially reinforcement learning) and who have excellent Python programming skills.
Apply for this studentship

1. Apply to study
You must apply online for a full-time PhD in Computer Science at:

https://www.york.ac.uk/study/postgraduate/courses/apply?course=DRPCOMSSCI3&level=postgraduate

You must quote the project title (EPSRC NPIF Studentship Accelerated Dynamics) in your application.

There is no need to write a full formal research proposal in your application to study as this studentship is for a specific project.

2. Provide a personal statement
As part of your application please provide a personal statement of 500-1,000 words with your initial thoughts on the research topic.

Deadlines
The closing date for the receipt of applications is Sunday, 30th July 2017.

Interviews are expected to take place within approx. 14 days of the closing date.

The studentship must begin in October 2017.

Informal enquiries

Project enquiries
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Application enquiries
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