



## **Multi-view Representations for Pose Invariant Face Recognition in Man and Machine**

### **ESRC DTP Artificial Intelligence Studentship**

#### **School of Psychology and School of Computer Science, Nottingham University**

This is a unique opportunity for a fully-funded ESRC Doctoral Studentship for applicants from the UK, EU or Overseas with a background in psychology, neuroscience, cognitive science, computer science or a related STEM discipline. The successful candidate will be located within the School of Psychology. The start date of this studentship may be 1<sup>st</sup> February 2019 or 1<sup>st</sup> October 2019 and will depend on the required award length (see 'Award Lengths' section below).

Pose-Invariant Face Recognition (PIFR) remains a significant stumbling block to realizing the full potential of face recognition as a passive biometric technology. This fundamental human ability poses a significant challenge for computer vision systems due to the immense within-class appearance variations caused by pose change, e.g., self-occlusion and coupled illumination or expression variations. Despite extensive efforts to solve the problem of pose-invariant face recognition it remains a significant barrier to developments in Artificial Intelligence. PIFR is achieved effortlessly by the human visual system but at present we do not understand the human system well enough to provide plausible solutions to the clear technological challenges. The aim of the studentship will be to enhance our understanding of how human observers achieve pose invariant recognition of faces in order to inform AI strategies. We will particularly focus on multi-view or pose-aware strategies and compare these against object-based models or pose-agnostic approaches. The work will involve both extensive psychophysical experimentation with human participants and computational experiments exploring computer models of pose-invariant dynamic face recognition. The project will be jointly supervised by Prof Alan Johnston (Psychology) and Dr Michel Valstar (Computer Science).

#### **Award Lengths**

The length of award offered will depend on the extent to which the candidate has met the ESRC's core research methods training requirements. These are:

- Quantitative methods,
- Qualitative methods,
- Philosophy of Research and
- Research Design.

The extent to which you have met this criteria will be assessed during the application process. For those who have met all of the training, a +3 year award will be made, for those who have met some of the training, a 3.5 year award will be made, with a requirement that core training is completed within the first 12 months. If no core methods research has been undertaken by the

candidate, then a +4 award will be made, which will include 180 credits research methods training before progressing to the PhD.

Owing to these requirements, +3 awards could start in February, but +4 awards would need to start at the beginning of the next academic year. +3.5 awards would depend on the type of training required and we will be able to advise candidates further prior to application if required.

[You can read more about award lengths here: www.nottingham.ac.uk/esrc-dtc/mgs/dtp-training-at-nottingham.aspx](http://www.nottingham.ac.uk/esrc-dtc/mgs/dtp-training-at-nottingham.aspx)

### **Application Process**

To be considered for this PhD, please complete the ESRC AI Studentship application form available [online here](#) with a covering letter and a CV as well as two references and then email this to [christopher.atkinson@nottingham.ac.uk](mailto:christopher.atkinson@nottingham.ac.uk).

**Application deadline: Friday 9th November 2018**

### **Midlands Graduate School ESRC DTP**

The Midlands Graduate School is an accredited Economic and Social Research Council (ESRC) Doctoral Training Partnership (DTP). One of 14 such partnerships in the UK, the Midlands Graduate School is a collaboration between the University of Warwick, Aston University, University of Birmingham, University of Leicester, Loughborough University and the University of Nottingham.

Our ESRC studentships cover fees and maintenance stipend and extensive support for research training, as well as research activity support grants. For this priority area candidates ordinarily resident in an EU member state will be eligible for a full award as will candidates from overseas.

Informal enquiries about the research prior to application can be directed to: [alan.johnston@nottingham.ac.uk](mailto:alan.johnston@nottingham.ac.uk).