CAREOBOT- Cognitive Robotic Companion for Carehomes and Hospitals (Ref CSEE/APR18/08)

The School of Computer Science and Electronic Engineering at the University of Essex is pleased to announce a PhD studentship available in "CAREOBOT- Cognitive Robotic Companion for Carehomes and Hospitals".

This studentship will start from 23 April 2018 and once awarded, you'll receive the scholarship for three years of your PhD (subject to satisfactory progression).

The studentship includes:
- a fee waiver equal to the Home/EU fee (for 2017/18, £4,120). International students will need to pay the balance of their fees.
- a stipend equivalent to the Research Councils UK National Minimum Doctoral Stipend (£14,553 in 2017-18)

Changing demographics, economics, acute shortage of skilled caregivers and prohibitive costs of continuous monitoring are presently the key drivers motivating the development of robotic companions in care homes (EPSRC UK-RAS White paper, 2017). The objective of the project is to develop a cognitive architecture endowing Pepper Humanoid to provide 'physical, social and cognitive assistance' for ageing and special needs populations in care homes and hospitals. The project will be developed in collaboration with three hospitals in the region i.e. Braintree community hospital, Moulsham Grange Children's centre and Halstead Hospital.

CAREOBOT aims to develop a first prototype of cognitive architecture for Pepper humanoid enabling it to "act, interact, learn and assist" both caregivers and patients in carehomes. The research will advance the state of the art in several core areas of cognitive robotics 1) Mobility and dextrous manipulation in unstructured natural living spaces (like hospitals, homes); 2) Cumulative learning and Reasoning to cater to diverse tasks, users; C) Social intelligence while interacting with humans. The project will both exploit and augment built in features of Pepper like NAO Qi Motion, People Perception, Gaze and Face tracking, Speech recognition/generation, interactive tablet to create a lively autonomous companion for care homes. Experiments and testing will be conducted in both the robotics arena or iSpace initially and later directly at the end user sites i.e. Hospitals collaborating with us on this theme.

The successful applicant will be supervised by Dr Vishuu Mohan and Dr Dimitri Ognibene.

Additional questions and queries about the studentship to be addressed to: Dr Vishuu Mohan   vishwanathan.mohan@essex.ac.uk   and Dr Dimitri Ognibene dimitri.ognibene@essex.ac.uk

Entry Requirements

At a minimum, the successful applicant will have a good honours BSc or BEng degree (1st class or high 2:1, or equivalent) in electronic engineering, computer engineering, computer

science, statistics, mathematics, or related subjects. An MSc with Merit or Distinction is desirable (but not essential for students with a first class degree). Strong analytical and mathematical skills are required, as well as good programming skills. Knowledge of machine learning, signal and image processing are desirable but not essential.

How to Apply

- To be considered for this Scholarship applicants are required to apply for their PHD course in the usual way via the University of Essex online admissions application process here: website, (including uploading all supporting documents required) by the deadline of **Friday 23 February 2018**.

- Please note on your PG Admissions application form in the 'Proposed research topic or area of research' field that you wish to apply for this scholarship, quoting Ref CSEE/APR18/08.

- In addition to your main online PHD application, you are also required to submit a separate application form, which can be accessed here and submit separately to: csee-schooloffice@essex.ac.uk by the deadline of **Friday 23 February 2018,** quoting Ref CSEE/APR18/08.

- Applicants will be informed of the outcome of their application for their PHD course and the scholarship award by the end of March 2018.

For further information on our current areas of research please refer to our research interests and staff profiles.

If you have a disability and would like information in a different format telephone (01206) 873521/874588.