From: **Annalisa Riccardi** annalisa.riccardi@strath.ac.uk
Subject: [icelab-announce] PhD opportunity
Date: 31 August 2017 09:52
To: icelab-announce@lists.strath.ac.uk

AR

Dear Colleagues,

The Intelligent Computational Engineering laboratory of the department of Mechanical and Aerospace Engineering at Strathclyde University is still looking for a PhD student on the topic

"Deep Learning and Knowledge Management for Spacecraft Design"

The design of complex systems necessitates the use of increasingly intelligent algorithms to support the human-in-the-loop. The proposed research project wants to build the path towards the development of a Design Engineering Assistant (DEA) that will leverage the latest in machine learning, data mining and knowledge management to support exciting future space missions.

The enrolled student will have the opportunity to collaborate on a complimentary project with another PhD candidate at the European Space Agency.

Please forward the vacancy to the people that can be interested.

Thanks in advance for your help in spreading around the news!

Best regards,

Annalisa Riccardi, PhD
Lecturer, Chancellor's Fellow

ICE Lab
the Intelligent Computational Engineering Laboratory
www.icelab.uk
info@icelab.uk

_____
Aerospace Centre of Excellence
Department of Mechanical & Aerospace Engineering
Strathclyde University
James Weir Building, 75 Montrose Street
G1 1XJ Glasgow
+44.141574.5169

Fully funded PhD in Aerospace Engineering

University of Strathclyde Engineering

DEEP LEARNING AND KNOWLEDGE MANAGEMENT FOR SPACECRAFT DESIGN

The design of complex systems necessitates the use of increasingly intelligent algorithms to support the "human-in-the-loop".

The proposed research is aimed at developing a database of knowledge and lessons learned from the design of space systems by making use of modern techniques such as Natural Language Processing, Deep Learning and Deep relational networks. To build these kind of databases/networks usually a very lengthy process of interviews and manual collection and organisation of data is required. The proposed research project aims to automatically infer this knowledge from existing datasets of components and/or mission studies reports as well as freely available online resources.

The project is a first step towards the development of a Design Engineering Assistant (DEA). The DEA, will provide support to the engineer for quick assessment studies, and running in the background will provide real-time feedback to the actions taken by the spacecraft designer. The intelligent agent is not intended to replace the human in the design process but rather to enhance his perception of the problem and possible solutions through the quickly evaluations of different alternatives.

The enrolled student will have the opportunity to collaborate on a complimentary project with another PhD candidate at the European Space Agency.

The academic supervisor will be Dr Annalisa Riccardi annalisa.riccardi@strath.ac.uk and the research will be conducted within the Aerospace Centre of Excellence at Strathclyde University and the Intelligent Computational Engineering Laboratory (ICE) www.icelab.uk.

REQUIREMENTS: Candidates should have (or expect to achieve) a minimum 2.1 (or equivalent) undergraduate degree in a relevant computer science, applied mathematics or engineering subject, and be highly motivated to undertake cutting-edge research in this field. Candidates with a background in machine learning and database management are strongly encouraged to apply. The position is open only to UK/EU applicants.

STUDENTSHIP AND APPLICATION PROCESS: The project is fully funded and the 3-year PhD studentship will cover Home/EU fees and a tax-free salary of approximately £15,000 per annum. If you wish to apply please email full Curriculum Vitae and the names and contact details of at least two academic referees to Dr Riccardi annalisa.riccardi@strath.ac.uk.

CLOSING DATE: 20th September 2017 (Project will start between November 2017 and February 2018).