

Job Related Information

This document includes information about the role for which you are applying and the information you will need to provide with your application.

1. Role Details

Vacancy reference	14229
Job title:	Research Assistant / Associate
Reports to:	Professor of Knowledge Engineering
Salary:	Ranging from £29,799 to £38,833
Terms and conditions:	Full time Research Staff
Grade	AC1 / AC2
Duration of post:	Temporary contract until December 2018
Working hours:	Full time, Monday to Friday
Location:	Milton Keynes
Closing date:	11 January 2018 at 5pm
Type of application form accepted:	Short Application with CV (plus covering letter)
Number of referees required:	Three
Unit recruitment contact:	Ortenz Rose

2. Summary of duties

The aim of the OU ANALYSE project (<http://analyse.kmi.open.ac.uk>) is to increase the retention rate at the Open University and at the same time to improve the quality of education. Internet technologies enable universities to offer their students educational resources online and, at the same time to collect information about the use of these resources. By analysing students' interactions with the virtual learning environment, it is possible to identify those who might be at risk of failing the course and offer them well-targeted additional support.

Our predictive models use data from the virtual learning environment, student performance during the course, legacy information, and the rules of the course to predict at-risk students as early as possible during the presentation. The analysis aims at identifying students for whom the additional support may help. By applying machine learning algorithms we develop predictive models that identify patterns of behaviour typical for potential failure in the course.

We are currently looking for a Research Assistant or a Research Associate to work on this project.

The appointment will be made on the Academic Grade AC1 or AC2 salary scales depending on qualifications and experience.

JOB DESCRIPTION

You will work as part of a team of developers and researchers on designing, prototyping and putting into practice novel scalable solutions helping students with their learning. Your work will involve:

- collaboratively designing Data mining experiments;
- gathering data and developing prototypes;
- developing software for communication with users;
- training and testing (machine learning) models;
- conducting and analysing experimental data;
- moving prototypes into a production environment.

3. Person specification

Requirements (E = Essential/ D = Desirable)

Education, qualifications and training

(E) A Master in Computer Science or related field, or equivalent experience.

(E) Appointment as a Research Associate requires a PhD in Computer Science or related field or 2+ years equivalent in quality of achievement.

Knowledge, work and other relevant experience

Essential:	<ul style="list-style-type: none">• Experience in programming Java/C++/Python (or any other object oriented language);• Experience with designing and implementing of web applications, ability to write a prototype of a solution;• Knowledge or basics of programming with some of the languages used for data science: preferably R, Python;• Knowledge of SQL both for designing the databases and writing optimized and complex queries;• Ability to independently and proactively define solvable solutions to problems;• Deploy and maintain the solution in the production environment;• Ability to work in a team, contribute to code review, knowledge of working with a versioning system (e.g. GIT).
Desirable:	<ul style="list-style-type: none">• Knowledge of principles of machine learning, data mining and statistics;• Experience with designing Data Warehouses and ETL process;• Knowledge of Java server technology;• Experience with unit-testing.

Personal abilities and qualities

Essential:	<ul style="list-style-type: none">• Ability to quickly demonstrate understanding of the project aims and specific task as requested;• Ability to write technical reports and contribute to research papers;• Ability to pro-actively seek solutions to complex problems;• Fluency in English;• Team player;• Hard worker;• Ability to work to challenging targets.
Desirable:	n/a

4. Role specific requirements e.g. Shift working

n/a

5. About the unit/department

Faculty of Science, Technology, Engineering & Mathematics

The Faculty of Science, Technology, Engineering and Mathematics (STEM) is comprised:

- School of Computing & Communications
- School of Environment, Earth & Ecosystem Sciences
- School of Engineering & Innovation

- School of Life, Health & Chemical Sciences
- School of Mathematics & Statistics
- School of Physical Sciences
- Knowledge Media Institute (distinct research institute)
- Deanery including teams supporting Curriculum, Research and Enterprise, Laboratory Infrastructure and Faculty Administration

“We aspire to be world leaders in inclusive, innovative and high impact STEM teaching and research, equipping learners, employers and society with the capabilities to meet tomorrow’s challenges”

The Faculty of STEM consists of 700 staff and 1,800 Associate Lecturers. The Faculty delivers over 185 modules across undergraduate and postgraduate curriculum, supporting nearly 19,000 students (full time equivalents) which is 29% of the OU total.

The Faculty generates more research income (circa £17M) than any other Faculty in the University, supported by a comprehensive laboratory infrastructure.

We are proud of our distinctive values and capabilities underpinning our aspiration:

We are inclusive:

- We transform people’s lives, ensuring STEM education is openly accessible to many thousands of students from diverse backgrounds – our students express high satisfaction with their study experience
- We engage the public in exciting citizen science and engineering, including through free open educational resources, multi-platform broadcasting, outreach to inspire the next generation and with programmes to encourage more women into STEM

We are highly innovative:

- We are at the forefront of innovative developments in teaching practical science and engineering at a distance, through simulated and remote access laboratories and practical experimentation
- Our high quality teaching and curriculum are informed by world-leading research, strong links with professional bodies and communities of practitioners, as well as by scholarship focused on continuously improving our STEM pedagogy

We deliver significant social and economic impact:

- We provide STEM higher education at a scale and reach unsurpassed in the UK, with a sizeable international reach and further growth potential
- We inject transferable STEM skills and knowledge direct into the workplace for immediate employee and employer benefit, as students combine study while working
- The employability value of our courses is underpinned by accreditation from leading STEM Professional Bodies and Learned Societies, as well as partnerships and sponsorship with leading employers
- Our high quality, applied and academically relevant teaching and research addresses real-world issues, delivering impact for industry and society, including addressing pressing STEM skill-shortages across the UK

The Knowledge Media Institute (KMi) of the UK’s Open University is a highly successful interdisciplinary research centre founded at The Open University in 1995, and located in attractive premises at The Open University's main campus in Milton Keynes, UK. We offer a stimulating environment, widely acknowledged to be at the leading edge of research and development, particularly in Semantic Technologies, Human Computer Interaction, New Media and Information Retrieval. The style, impact and content of our work can be seen at <http://kmi.open.ac.uk/>

6. How to obtain more information about the role or application process

If you would like to discuss the particulars of this role before making an application please contact Professor Zdenek Zdrahal on +44 (0)1908 654512 or email: zdrahal@open.ac.uk

If you have any questions regarding the application process please contact Ortenz Rose on +44 (0)1908 654774 or email: ortenz.rose@open.ac.uk

7. The application process and where to send completed applications

Your application should contain:	<p>a) A completed short application for employment form; b) An up-to-date CV; c) Covering letter.</p> <p>Please ensure you complete all relevant sections of the application form. You are required to include a curriculum vitae; however any CVs submitted <u>without</u> a completed application for employment form <u>will not be accepted</u>.</p> <p>You are also asked to provide a covering letter describing how your skills make you a suitable candidate for the post.</p>
Please ensure that your application reaches the University by:	11 January 2018 at 5pm
E-mail your application to:	kmi-recruitment@open.ac.uk
Or post it to Name/Job title:	Ortenz Rose / KMi Senior Co-ordinator – Staffing & Recruitment
Department/Unit:	The Knowledge Media Institute (STEM)
Address:	The Open University, Walton Hall, MILTON KEYNES. Buck MK7 6AA

8. Selection process and date of interview

The interview panel will be chaired by:	Professor Zdenek Zdrahal - Professor of Knowledge Engineering
The other members of the interview panel will be:	To be advised
The interviews will take place on:	To be advised
The selection process for this post will include:	<ul style="list-style-type: none"> • A review of applications by the interview panel; • A formal interview.



We will let you know as soon as possible after the closing date whether you have been shortlisted for interview. Further details on the selection process will also be sent to shortlisted candidates.

Applications received after the closing date will not be accepted.