University of Strathclyde Glasgow

Research Assistant/Associate in Big Data Analytics for Smart Cities

Department	Economics (www.strath.ac.uk/economics/)		
Faculty	Strathclyde Business School (www.strath.ac.uk/business/)		
Staff Category	Research	Reference No	33617
Reports To	Richard Bellingham, Director of Sustainable Cities & Energy Policy and Economics	Grade:	6/7
Salary Range:	Research Assistant Grade 6 £26,537 - £29,847 Research Associate Grade 7 £30,738 - £37,768	Contract Type:	Fixed Term (12 months)
FTE:	1 (Full Time)	Closing Date	Sunday, 13 March 2016

Job Advert

The Institute for Future Cities in partnership with the Institute of Signal, Systems and Communication seeks a Research Assistant or Research Associate in the area of big analytics for Smart Cities. In particular, the project develops a novel environmental monitoring system, collecting telemetry data from numerous location across the city of Glasgow. Our partner Institute of Future Cities is building their capability in Big Data, Machine Learning and Predictive Analytics. You will contribute to the delivery of the research project and carry out analysis of data provided by the air pollution monitoring systems. You should have a strong mathematical and programming background with experience in machine learning, artificial intelligence and predictive analytics. Practical experience in handling data and maintaining databases will be highly desirable. You will input as a team member to administrative activities and assist where required in relevant teaching, professional and knowledge exchange activities. You will have a good degree in a relevant area and must be capable of high-level problem solving and working as part of a team and your own initiative. Applicant who have a relevant PhD or who are near completion, may be considered for the Research Associate position. You will be required to disseminate high-quality research output through the appropriate reporting channels.

Applicant should indicate on their covering letter which post they are applying for.

Research Assistant

Job Description

Brief Outline of Job:
To assist in the delivery of research activities in the area of Big Data Analytics for Smart Cities, by carrying out analysis on data originating from multiple sensor streams. To contribute to the development of software tools for the analysis, visualisation and understanding of air pollution data. To input as a team member to administrative activities and to assist where required in relevant teaching, professional and knowledge exchange activities. To disseminate research outputs through the appropriate reporting channels.

Main Activities/Responsibilities:

1.	Assist in the delivery of the research project - this will include contributing to the organisation, formatting and management of data, and the development of analytical and predictive software tools.
2.	Assist in the setup of a project software demonstrator.

3.	Write up results of own research and contribute to the production of research reports and publications.
4.	Prepare technical presentations and present/disseminate work at conferences, workshops, and meetings as required.
5.	Contribute to the planning of the research program.
6.	Assist with the supervision of student projects and the delivery of introductory classes as required.
7.	Represent Strathclyde at project meetings and participate in industrial presentations as required.
8.	Collaborate with colleagues on the development of knowledge exchange activities.
9.	Engage in continuous professional development.

Person Specification

Educational and/or Professional Qualifications
(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

E1   Good Honours Degree in Engineering, Computer Science, Mathematics, Physics or equivalent

D1   PhD in Engineering, Computer Science, Mathematics or Physics - Candidates who are near to completion of a PhD will also be considered

Experience

E2   Programming and data analysis skills and experience in a range of engineering applications/packages, in particular Matlab, C/C++ or similar languages

E3   A good understanding of and experience in different techniques used in data analysis

E4   Experience in the application of machine learning, artificial intelligence and predictive analytics to real data

D2   Experience with the Microsoft Azure ML platform

D3   Technical writing and presentation experience

Job Related Skills and Achievements

E5   Developing ability to Sufficient breadth or depth of knowledge in the relevant discipline/s to effectively contribute to the research programme

E6   Excellent interpersonal and communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences

E7   Ability to plan and manage own workload effectively, working independently or as part of a group

D4   Experience in student mentoring and teaching activities

D5   Experience of knowledge exchange related activities

Other Relevant Factors

D6   Availability to travel occasionally within UK and abroad (US)

Research Associate

Job Description

Brief Outline of Job:

To contribute in the delivery of research activities in the area of Big Data Analytics for Smart Cities, by carrying out analysis on data originating from multiple sensor streams. To lead the development of software tools for the analysis, visualisation and understanding of air pollution data. To input as a team member to administrative activities and to assist where required in relevant teaching, professional and knowledge exchange activities. To disseminate research outputs through the appropriate reporting channels.

Main Activities/Responsibilities:

1.	As part of the wider research team contribute to the delivery of the research project - this will include organisation, formatting and management of data, and development of analytical and predictive software tools.
2.	Contribute to the setup of a project software demonstrator.
3.	Write up research work for publication, individually or in collaboration with colleagues, and disseminate results as appropriate to the discipline by, for example, peer reviewed journal publications and presentation at conferences.
4.	Prepare technical presentations and present/disseminate work at conferences, workshops, and meetings as required.
5.	Contribute to the planning of the research program.
6.	Supervise student projects, provide advice to students and contribute to teaching as required.
7.	Represent Strathclyde at project meetings and participate in industrial presentations as required.
8.	Collaborate with colleagues on the development of knowledge exchange activities.
9.	Engage in continuous professional development.

Person Specification

Educational and/or Professional Qualifications
(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

E8   Good Honours Degree in Engineering, Computer Science, Mathematics, Physics and a PhD in a relevant discipline (or equivalent professional experience)

Experience

E9   Demonstrable programming and data analysis skills and experience in a range of engineering applications/packages, in particular Matlab, C/C++ or similar languages

D7   Experience with the Microsoft Azure ML platform

E10 A strong understanding of and experience in different techniques used in data analysis

E11 Good experience in the application of machine learning, artificial intelligence and predictive analytics to real data

D8   Sufficient technical writing and presentation abilities

Job Related Skills and Achievements

E12 Developing ability to conduct individual research projects, to disseminate results as appropriate and to prepare research proposals

E13 Ability to plan and organise own workload effectively

E14 Excellent interpersonal and communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences

D9   Experience in student mentoring and teaching activities

Personal Attributes

E15 Ability to plan and manage own workload effectively, working independently or as part of a group

D10 Experience of knowledge exchange related activities

Other Relevant Factors	
D11	Availability to travel occasionally within UK and abroad (US)

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted before interview without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (http://www.strath.ac.uk/hr/workforus).

Informal enquiries about the post can be directed to Janette Hughes, Project Manager (janette.hughes@strath.ac.uk/0141 444 7060).

Probation

Where applicable, the successful applicant will be required to serve a 9 month probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from Payroll and Pensions.

Interviews

Formal interviews for this post are likely to be held the week commencing 21 March 2016.

Equality and Diversity

We value diversity and welcome applications from all sections of the community.

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

Conditions of Employment
Research Staff

1. GENERAL CONDITIONS

Members of staff are subject to the Charter and Statutes and the Ordinances and Regulations of the University, published in the Calendar, and to any amendments or additions thereto approved by the University Court and, in the case of the Charter and Statutes, the Privy Council. Staff are also expected to familiarise themselves with, and adhere to, general University policies and procedures, as published on University web pages.

The University Court recognises Strathclyde Universities and College Union (SUCU) as the sole body with which it will negotiate and consult on all collective issues concerned with the terms and conditions of employment of Research Staff. Such terms and conditions may be varied by the University Court after negotiation and consultation with SUCU.

Each member of staff is responsible for the proper performance of allocated duties to the person or persons specified in the member of staff's letter of appointment and any accompanying papers.

The University is committed to ensuring that its business is conducted in an open and transparent manner and will take all appropriate steps to address risks of bribery or corruption. Members of staff are required at all times to act honestly and with integrity and to safeguard the resources for which they are responsible. The University has in place a robust Public Interest Disclosure (Whistleblowing) Policy to enable concerns to be brought to its attention. This is available at www.strath.ac.uk/publicinterestdisclosure. Other relevant policies, e.g. Fraud Prevention and Conflicts of Interests, can also be found on the University's website.

Any member of staff may at any time be exposed to commercially sensitive information, information related to potentially valuable intellectual property or information which may otherwise be of a confidential nature. This information, which could be found anywhere in the University, may be written or disclosed orally, can include information of a commercial or technical nature, and may be owned by the University or by third parties. The University requires all employees to keep any such information confidential in the first instance and not disclose, publish or otherwise disseminate it without prior consent of the University. Such confidentiality obligations are commonplace and in the commercial interests of the University. When in doubt advice should always be sought from Research and Knowledge Exchange Services prior to disclosure.

The University operates probationary periods for new staff, the duration of which will be specified in individual letters of appointment. The normal probation period for posts in this staff category is 9 months for those at grades 6 and 7, and 12 months for grades 8 and above. Further guidance on probationary procedures is published at http://www.strath.ac.uk/staff/policies/hr/.

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Further information on the terms and conditions specified in this document and other staffing policies and procedures can also be found at www.strath.ac.uk/hr.

2. SALARY

Appointments are made at an appropriate salary point on the University's grading structure, with initial placing determined according to qualifications and experience. Increments are paid to staff on the 12 month anniversary of their appointment. Where this is not the first of the month, the increment will be paid on the first of the month directly after the 12 month anniversary. This allows 1 progression to the next point on the salary scale until the top guaranteed point of the scale is reached.

Salaries are paid directly to staff members nominated bank account, normally on the second last working day of the month.

3. HOURS OF WORK

Working time is that required to fulfil the duties of the post. The University Court recognises that research staff carry out these duties in a variety of ways appropriate to the nature of the research activity, but expects regular contact to take place between the research staff employee and the supervisor/grantholder (where these positions are occupied by different individuals) during normal working hours on week days. There are exceptions to this pattern which may involve contact at other locations or in the evenings, or at weekends, but these arrangement will be made with the agreement of the member of staff concerned.

Duties may, by arrangement with Head of Department/School/Director, include some teaching associated with the post (up to a maximum of 40 hours per semester) for which no additional payment will be made.

Additional work which does not fall within the scope of that described above may by arrangement attract payment which must be authorised and processed through the payroll.

4. HOLIDAYS

Annual leave entitlement is 31 days per year to be taken by agreement with the line manager. For staff members working on a part-time basis, holidays will be calculated on a pro-rata basis.

In addition to annual leave there is an entitlement to eleven public holidays per year which should be taken on days that the University is closed for this purpose. The University presently closes for four additional days over the Christmas and New Year period. **These additional days count against the annual leave entitlement.**

For staff members working on a part-time basis, public holiday entitlement will be calculated on a pro-rata basis.

Annual leave and public holiday entitlements should be taken in the leave year to which they relate. Up to five days leave can be carried forward into the new leave year subject to line management agreement. In exceptional circumstances, Heads of Department/School/Director may approve carry forward of accrued annual leave in excess of five days.

The University's expectation is that staff take all accrued holidays prior to their termination date. If staff have exceeded their entitlement the University will deduct an equivalent number of days pay from final salary payments.

5. SICKNESS ABSENCE

During any period of absence through illness or injury provided the appropriate notification and certification procedures have been followed the University will pay a member of staff (having taken account of the aggregate of all periods of absence due to illness during the twelve months immediately preceding the first day of the current absence) as follows:

Period of Continuous Employment at start of absence from work	Full Pay	Half Pay
Less than 1 year	1 month	1 month
1 year but less than 2 years	2 months	2 months
2 years but less than 3 years	4 months	4 months
3 years but less than 5 years	5 months	5 months
5 years or more	6 months	6 months

In order to manage the University's sick pay scheme the University requires to maintain sickness absence records on individual members of staff. When making payments after the expiry of statutory sick pay the University will deduct an amount equivalent to any benefit normally payable by the Department of Work and Pensions. For full details on the general University policy in this area please refer to the Sickness Absence Management Policy at www.strath.ac.uk/staff/policies/hr.

6. PENSIONS

New members of staff, aged under 75, will be admitted to membership of the Universities Superannuation Scheme (USS) on taking up appointment. USS requires a contribution from the member (currently 6.5 per cent of salary for the Career Revalued Benefits section of the scheme and 7.5 per cent for the Final Salary section), to which a contribution of salary is added by the University as required by USS. If a new member of staff has previously been a member of USS and re-joins the scheme on or after 1 October 2011 they will be eligible to re-join the Final Salary section of the scheme if they:

- Have left before 1 October 2011 and have deferred benefits in USS and re-join before 1 April 2014; or
- Have left or leave the Final Salary section after 30 September 2011 and re-join the scheme within 30 months of leaving.

New members of staff may opt out of USS within three months of taking up appointment and will then be treated as if they had never been a member of the scheme. After three months members of staff who wish to withdraw from USS during their employment will be required to give a minimum of 28 days' notice in writing to the University. Any member of staff who wishes to opt out should contact the Pensions Section, Finance, in the first instance (pensions@strath.ac.uk).

Information regarding pension scheme membership can be found on the Finance webpage. Full information regarding USS can be found on the USS website – www.uss.co.uk

7. PLACE OF WORK AND RESIDENCE

Members of staff will be based on the John Anderson Campus, unless otherwise stated in the letter of appointment. The Department/School in which the post is initially placed will be specified in the letter of appointment although there will be an expectation to work at such other places as required in the course of employment.

If the need arises for members of staff to work outside the UK for a period (or periods) of more than one month then such arrangements will be subject to mutual agreement. Members of staff would then be provided with a statement in advance setting out the terms covering such periods of employment.

The University does not normally place specific restrictions upon the place of residence of members of staff. All staff are, however, expected to reside in a location which is compatible with the satisfactory fulfilment of all the duties associated with their appointment.

8. CONSULTANCY/FURTHER ACTIVITIES

To support the strategic objectives of the University and to facilitate individual professional development, the University encourages staff to engage in professional activities with outside bodies related to their field of work. In many cases, such activity will be approved on the basis that it represents University knowledge exchange activity and should therefore be treated as part of the individual's overall workload and managed through the University's systems. It is also recognised that there will be some cases where an activity is entirely separate from the University and should thus be notified/approved as a personal business activity. For further information please refer to the "University Procedure in relation to Work for Outside Bodies including Consultancies", which forms part of the employment contract and can be accessed at .www.strath.ac.uk/hr

9. DISCIPLINARY AND GRIEVANCE PROCEDURES

Further information on the University's disciplinary and grievance procedure can also be found at www.strath.ac.uk/policies/hr or on request from Human Resources.

10. NOTICE AND TERMINATION

Members of staff are employed on the conditions indicated in individual letters of appointment and any accompanying papers. The University is not obliged to give notice of termination or continue any employment beyond the end of that period. Where the period of the contract of employment is for one year or less it may be terminated short of the fixed term period by one months notice on either side. Where the period of the contract of employment is for more than one year, or where there have been a further contract or series of contracts immediately consecutive, the employment may be terminated short of the fixed term period by three months' notice on either side, except during the probationary period when the notice period is one month.

If the appointment is for a fixed term it will expire at the end of the period without the necessity for notice.

Revised March 2014