

# Research Associate in Predictive Analytics (2 posts)

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|----------------|---|----------------|---|
| Department     | Electronic and Electrical Engineering ( <a href="http://www.strath.ac.uk/eee/">www.strath.ac.uk/eee/</a> )  |                |   |
| Faculty        | Faculty of Engineering ( <a href="http://www.strath.ac.uk/engineering/">www.strath.ac.uk/engineering/</a> ) |                |   |
| Staff Category | Research  | Reference No   | 83870   |
| Reports To     | Dr Craig Michie   | Grade:         | 7*  |
| Salary Range:  | £31604 - £38833   | Contract Type: | 2 posts – 1 Fixed Term (24 months) and 1 Fixed Term (12 months) |
| FTE:           | 1 (35 hours/week)   | Closing Date   | Tuesday, 26 September 2017                                      |

## Job Advert

The Department of Electronic and Electrical Engineering, Institute of Signal, Systems and Communication seeks to recruit one Research Assistant or Research Associate (depending upon experience) in the area of data analytics applied to a range of data sets relevant to the area of animal welfare monitoring.

There are two posts, one fixed term for 12 months and one fixed term for 24 months. Candidates will be considered for both posts. These positions are linked to a European Horizon 2020 programme with multiple partners. Data sets are available from for example accelerometer based activity monitors, feed composition, milk production, veterinary and farm management records. The objective is to optimise the fusion of these data sets to provide meaningful information relating to animal welfare and production efficiency.

You will assist the delivery of the research project and carry out analysis of data provided by our partner companies. To be considered for the role you will be educated to a minimum of PhD level in an Engineering, Computer Science, Mathematics, Physics or be close to the completion of your PhD\*. You will have a strong mathematical and programming background with experience in machine learning, artificial intelligence and predictive analytics. You will be capable of high-level problem solving and you will have the ability to work as part of a team and on your own initiative. 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. You will be required to disseminate high-quality research output through the appropriate reporting channels.

\* Whilst a Research Associate is ideally sought for this position, applications from candidates who are close to PhD completion or whose award is pending are welcome. In such circumstances, the appointment will be made at Research Assistant level (RS06 salary scale £27,285 - £30,688) and duties will be adjusted to reflect the grade of the post. This will continue until the PhD award is confirmed, at which point the duties and grade will be revised accordingly.

## Job Description

### Brief Outline of Job:

You will be responsible for the delivery of research activities in the area of data analysis and predictive analytics taking as inputs a range of parameters that map to one or more animal behaviours and/or bio markers, and relate these to changes in animal welfare, for example the onset of illness.

You will work with a range of partners to devise experiments that will produce the data to be analysed. This includes a range of truth data that will be required to validate the analysis.

You will lead to the analysis of data within the broad research team and identifying the most appropriate tools to undertake the data analysis.

You will input as a team member to administrative activities and to assist where required in relevant teaching, professional and knowledge exchange activities.

You will disseminate research outputs through the appropriate reporting channels.

### Main Activities/Responsibilities:

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|-----|--|
| 1.  | Delivery of the research project - this will include organisation, formatting and management of data, and development of analytical and predictive software tools. |
| 2.  | Lead in the analysis of a range of data sets available from current and planned experiments.   |
| 3.  | Plan and manage own workload, with guidance from colleagues as required.   |
| 4.  | Write up results of own research and contribute to the production of research reports and publications.  |
| 5.  | Prepare technical presentations and present/disseminate work at conferences, workshops, and meetings as required.  |
| 6.  | Contribute to the planning of the research program.  |
| 7.  | Assist with the supervision of student projects and the delivery of introductory classes as required.  |
| 8.  | Represent Strathclyde at project meetings and participate in industrial presentations as required.   |
| 9.  | Collaborate with colleagues on the development of knowledge exchange activities.   |
| 10. | 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

E2 PhD in Engineering, Computer Science, Mathematics or Physics ; or close to completion of PhD

### Experience

E3 Programming experience in Matlab, Python, C/C++ or similar languages

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

E5 Understanding and experience of different techniques used in data analysis

D1 Experience with the Microsoft Azure ML platform is desirable

D2 Technical writing and presentation experience

### Job Related Skills and Achievements

E6 Good programming and data analysis skills across a range of engineering applications/packages, e.g. Matlab, C/C++, Python, R

E7 Developing ability to conduct individual research projects, to disseminate results as appropriate and to prepare research proposals

E8 Good communication skills, with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences

D3 Experience in student mentoring and teaching activities

### Personal Attributes

E9 Ability to work independently and as part of a group

E10 Ability to plan and organise own workload effectively

D4 Experience of knowledge exchange related activities

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|-------------------------------|--|
| D5                            | Ability to use initiative, creativity and judgment in applying and developing research methods |
| D6                            | Ability to write high quality journal papers   |
| <b>Other Relevant Factors</b> |  |
| D7                            | 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 Dr Craig Michie, Reader ([c.michie@strath.ac.uk](mailto:c.michie@strath.ac.uk)/0141 548 2521).

### Conditions of Employment

Conditions of employment relating to the Research staff category can be found at: [Conditions of Employment](#).

### 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](#).

### Relocation

Where applicable, the University offers a relocation package to support new employees who meet the eligibility criteria. The relocation package is offered as a contribution towards costs incurred, and is designed to be flexible, allowing staff to use the financial support available in the way that will be most helpful to them. Further details are outlined in the Relocation Policy.

### 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.

