LECTURER IN MACHINE LEARNING

Job Ref: 009084

Faculty: Science and Engineering, School of Electrical Engineering, Electronics and Computer Science, Department of Computer Science

Location: University Campus

Grade: 8

Salary: Depending on qualifications and experience

Range: £39,992 - £50,618 pa

Tenure: Permanent

Hours of work: Full-Time

Informal enquiries to Professor Katie M. Atkinson, email: K.M.Atkinson@liverpool.ac.uk
The Post

The post is expected to fit with the Department’s existing research in the area of Artificial Intelligence, and specifically on the topic of Machine Learning. The Department has an existing research group in the area of Data Mining and Machine Learning and it is this group that we specifically wish to strengthen. The group’s expertise spans the core areas of data mining, pattern recognition, prediction, reinforcement and multi-agent learning, and learning to behave. We are also particularly seeking candidates whose work on machine learning relates to robotics applications.

You will also be encouraged to engage with the Department’s researchers in other groups in our AI research section, as well as researchers in our Algorithms section, in addition to various institution-wide initiatives at both the Faculty and the University levels, such as the new University-level research theme on the topic Digital. Of particular interest are candidates who can contribute to strengthening the impact of the Department’s research.

Appointment will be based on the academic quality or potential of the candidate. The School of EEECS is an Athena SWAN Bronze Award holder and we are working to create an inclusive environment that values a diverse workforce. We strongly encourage applications from groups under-represented within our workforce, in particular, women.

Academic Posts

You will enter the Department as members of academic staff, and as such the main duties will be:

- To undertake research activities contributing to one or more of the research areas specified above, and in particular to:
  - Undertake research explorations and other related activities of international excellence.
  - Apply for and obtain external research funding.
  - Publish high quality research consistent with the above.
  - Contribute to the development of the Department’s research impact.
  - Provide support to PhD students and junior research staff in their research activities, and
  - Contribute to development of relevant research groups, themes and research strategies.
- To contribute to the teaching in the School to undergraduate and postgraduate levels as directed by the Head of School/Department.
- To undertake assessment and examination duties as required.
- To participate in the management of the Department, School, Faculty of Science and Engineering, and the University, and in so doing, to represent the best interests of students, the Department, School, the Faculty, and the University, consistent with the academic ethos of the employer.
- To contribute in all respects to the establishment and maintenance of a School that is internationally recognised as a centre of excellence for research and teaching in contemporary Electrical Engineering, Electronics, and Computer Science.
- To undertake administrative roles as required.
- Be engaged in relevant health and safety procedures/processes, particularly in relation to the Department’s robotics lab, raising any concerns with the Department’s safety leads.
Probationary members of staff will:

**Research**
- Demonstrate that they have fulfilled the agreed plans and priorities of their research to an internationally excellent standard, or which demonstrates that their research is progressing towards an internationally excellent standard

**Knowledge Exchange**
- Demonstrate that they have an awareness of potential knowledge exchange audiences and that they have engaged with the internal and external knowledge exchange environment

**Learning and Teaching**
- Demonstrate that they have fulfilled the agreed teaching expectations assigned to them to a standard expected in their subject area
- Demonstrate how they have contributed to the student experience at undergraduate and/or postgraduate level, including evidence of PGR supervision where appropriate
- Demonstrate that they have completed, or be near to completing within a defined deadline, the Certificate of Professional Studies

**Contribution and Engagement**
- Demonstrate their awareness of the University’s plans and priorities and that they are engaged with these
- Demonstrate that they have fulfilled agreed leadership and managerial activities assigned to them
- Demonstrate their awareness of departmental/school/institutional plans and priorities and how they contribute to and engage with these
- Demonstrate that they have an on-going longer term career plan
- Demonstrate that they have an awareness of the University values

**Development**
- Demonstrate that they have fulfilled any required development and that they have an ongoing plan for the development of their career

**Clinical Engagement (if appropriate)**
- Demonstrate that they have fulfilled agreed clinical duties assigned to them and all of the associated professional requirements of their clinical status and registration
## Person Specification

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<th>ESSENTIAL CRITERIA</th>
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<td>(Identified from – Application form, CV, Supporting Statement, Interview, References)</td>
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### EXPERIENCE

1. Evidence of track record of high quality research in Machine Learning  
   Experience /evidence of sustainable research activity
2. A publication and funding record commensurate with experience  
   Experience or interest in robotics applications of machine learning research
3. Evidence of track record of (or, depending on point of career, potential for) high quality peer reviewed grant income  
   A track record of (or, depending on point of career, interest in) successful PhD supervision and mentoring others in research and teaching
4. Experience of proven contribution to (or, depending on point of career, commitment to) the planning, design, development and delivery of learning objectives and teaching material  
   Experience/excellence in teaching at undergraduate and postgraduate level
5.  
   Experience of engagement with industry
6.  
   Leadership experience
7.  
   Experience of working with researchers and students from different international contexts

### EDUCATION, QUALIFICATIONS AND TRAINING

1. PhD in Computer Science or related subject  
   Teaching qualification

### SKILLS, GENERAL AND SPECIAL KNOWLEDGE

1. An understanding of the research impact agenda and ability to contribute to this  
   Should be able to make an active contribution in a short time period
2. Knowledge of specialist area relevant to machine learning
3. Ability to deliver high quality research
4. Ability to deliver high quality research-informed teaching on both undergraduate and postgraduate taught programmes
5. Ability to develop research networks across and outside of the university
6. Excellent interpersonal and communication skills

### PERSONAL ATTRIBUTES AND CIRCUMSTANCES

1. Dependable and reliable  
   An ability to work with others in multi-disciplinary teams across the School and the University
2. Consistent ability to produce high quality and quantity of work  
   Access to transport, driving licence
3. Ability to work with others
4. Enthusiasm for research and research informed teaching
5. Excellent command of English (spoken and written)
6. Ability to travel overseas (including US)
7. Enthusiasm for working with students
8. Strategic fit to the direction of the institute
The University of Liverpool is one of the UK’s leading research institutions with an annual turnover of £480 million, including £102 million for research. Ranked in the top 1% of higher education institutions worldwide, Liverpool is a member of the prestigious Russell Group of the UK’s leading research universities. The University has 33,000 students, 7,500 of whom travel from all over the world to study here, and 211,000 alumni in 171 countries. Its global focus has led the institution to establish a university in Suzhou near Shanghai, in partnership with Xi’an Jiaotong University, as well as a campus in London. The University is the largest provider of 100% online postgraduate degree courses in Europe with over 10,000 students studying for Liverpool degrees around the world.

As one of the top 25 UK universities targeted by global graduate employers, and 18th in the top universities in the UK for graduate employability our students enjoy high employability rates, with 88% of all of the University’s graduates in employment or further study six months after graduation. For undergraduate leavers this rises to 90% and to 95% for UK-based undergraduate leavers. The University is committed to continually improving the quality of its student experience, and, supported by a £600 million phased investment in our campus our approach has had a significant impact on the University’s student recruitment position in recent years.

Liverpool graduates have become pioneers in every field, with Nobel prize winners including: Sir Ronald Ross (1902; discovery of mode of spread of malaria), Professor Charles Glover Barkla (1917; discovery of the electromagnetic properties of x-rays), Professor Sir Charles Sherrington (1932; functional analysis of motor unit in a muscle), Professor Sir James Chadwick (1936; discovery of the neutron), Professor Sir Robert Robinson (1947; investigation into alkaloids and other plant products), Professor Har Gobind Khorana (1968; genetic code of protein synthesis), Professor Rodney Robert Porter (1972; structure of antibodies); Professor Sir Joseph Rotblat (1995; work to diminish the role of nuclear arms in international politics) and Ronald H. Coase – awarded the Nobel Prize in Economics 1991 for his research into the significance of transaction costs and property rights for the institutional structure and functioning of the economy.

Over 6,000 talented staff help create the inspiring learning environment our students thrive in, it’s no wonder given over 81% of our research is seen as ‘world leading’ and ‘internationally excellent’. What’s more, we provide a supportive and high-quality environment for our people across the University and a range of initiatives ensure that there are equal opportunities for all, including our partnership with Athena SWAN which celebrates good employment practice for women working in science, technology, engineering and medicine.

Life Changing, World Shaping
As the seventh largest city in the UK, Liverpool is diverse, energetic and exciting. Built on an illustrious heritage that stretches back 800 years, Liverpool has a global reputation for sport, music, architecture and culture.

Today the city is enjoying a resurgence, driven by its designation as European Capital of Culture in 2008. Record levels of inward investment have transformed the city.

The regeneration of Liverpool City Centre has been spearheaded by the £1 billion Liverpool One project - one of Europe's biggest shopping/mixed-use schemes, which has positioned the city as one of the UK's top five retail destinations.

The successful European Capital of Culture experience in 2008 has been followed by the designation of Liverpool's stunning waterfront as a UNESCO World Heritage Site and massive investment in new cultural and leisure attractions, including Albert Dock. Liverpool is a major cultural hub in the UK. In fact, there are more museums, theatres, and galleries in Merseyside than in any other region outside London.

Liverpool Philharmonic Hall, home to the Royal Liverpool Philharmonic Orchestra, one of Europe’s leading orchestras, is the classical counterpoint to the city’s many contemporary music venues and the visually stunning Echo Arena.

Home to two of Europe’s most famous football teams – Liverpool FC and Everton FC– the city’s achievements in sport are internationally recognised. Aintree Racecourse, home of the Grand National, and two internationally acclaimed golf courses at Royal Birkdale & Royal Liverpool in Hoylake are on the doorstep.

Compared to many other UK cities Liverpool has less congestion, is closer to countryside, has more parks, has more cultural and recreational opportunities, better schools and more accessible transport. Liverpool is uniquely situated 1 hour from Manchester, 3 hours from London by train and the city’s Liverpool John Lennon Airport (one of the Europe's fastest growing airports) connects to more than 650 world wide destinations.

For more information on the city of Liverpool, visit: www.itsliverpool.com
Electronics, and Computer Science

The School of Electrical Engineering Electronics and Computer Science was formed in 2008 from the Departments of Computer Science and Electrical Engineering & Electronics. The School is in the Faculty of Science and Engineering. Both Departments contain nationally and internationally leading research activities, and both have strong student satisfaction as measure by the National Student Survey (NSS).

The School provides a research and teaching environment building on the complementary expertise of the Departments. The School is investing in the above posts to support and develop its Research and Teaching activities. The School currently has around 75 academic staff, 9 Technical Support and 12 Professional Service Staff.

The discipline-specific research activities in the School have been enhanced by an emphasis on a number of interdisciplinary strategic research themes including:

- Autonomous Systems;
- Data Science
- Biomedical Science and Engineering
- Energy Technologies and Complex Systems;
- Networks and Communications;
- Sensor Technologies;

Staff in the School, contribute actively to these themes and to University and Faculty priority areas (including: Big Data, Risk and Uncertainty, Advanced Materials and Computational Biology). The School sits at the heart of a newly established University level research theme on the topic Digital. The Digital theme, which is one of four University level research themes, spans the University’s three faculties and is aimed at bringing together researchers and external partners whose work relates to multi-faceted topics within the Digital topic.

The School has a healthy and growing postgraduate research (PGR) community. There are approximately 170 PGR students in the School. The School has made a substantial investment in its PGR numbers through direct financial funding of approximately 15 PGR studentships per year. Some of these students are jointly funded with other international institutions aimed at enhancing our international collaborations with students currently spending time at institutions in China, Taiwan, and Japan.

The School offers a range of taught programmes on campus and online. The online MSc provision offered through Computer Science was the first of its kind worldwide, and the programmes are accredited by the British Computer Society (BCS). There are 7 Postgraduate Taught programmes, all of which are available with a year in industry option, and more than 20 undergraduate programmes (including Integrated Masters Degrees, and Bachelor Degrees, which accredited by the IET or BCS, and many with a year in industry).

The taught programmes are underpinned by research led teaching with employability and skills embedded in the curricula. There is close involvement with more than 50 major companies and research organisations. Collaboration with UK and overseas universities is a strong feature.

Student numbers have grown to around 1500 with this number expected to remain stable over the next 2-3 years. This growth has been generated both by Home/EU students and by students from our sister University in Suzhou (Xian Jiaotong Liverpool University – XJTLU). Students at XJTLU studying Electrical/Electronic and Computer Science programmes follow our syllabus in China and can transfer directly in to Year 2 of our programmes.
General Information

Asylum & Immigration
The University will comply with the Immigration, Asylum and Nationality Act 2006, which requires all employees to provide documentary evidence of their legal right to work in this country prior to commencing employment. Please be aware that you will be required to bring your passport (and visa if applicable) to interview so that it can be copied and verified by a member of the Selection Panel. For posts requiring a recognised degree level or equivalent qualification, and where there is no suitable UK or European Economic Area candidate, the University will take the necessary steps to secure UK Border Agency permission for a foreign national to take up employment. Should a candidate require a Certificate of Sponsorship in order to take up a post they will need to meet the UK Border Agency Tier 2 Points Based Criteria. A self assessment tool can be found on the UK Border Agency website at: www.ukba.homeoffice.gov.uk/pointscalculator

A candidate may also be required to undertake an English Language test prior to commencing work at the University. Details of Home Office approved tests can be found at: https://www.gov.uk/government/publications/guidance-on-applying-for-uk-visa-approved-english-language-tests

Further information on the eligibility criteria for Certificates of Sponsorship can be found at: www.ukba.homeoffice.gov.uk/employers/points

National Insurance Number
All employed individuals must possess a UK National Insurance Number. Further information and how to apply for a unique National Insurance Number can be found at: https://www.gov.uk/apply-national-insurance-number

Diversity and Equality
The University of Liverpool is committed to diversity and equality of opportunity. All employees and applicants for jobs will be considered on their abilities and will not be discriminated against on the grounds of age, caring responsibilities, colour, disability, employment status, gender, gender identity, marital status, nationality, race or ethnic origin, religion or belief, sexual orientation, socio-economic status or any other irrelevant distinction. Training is available to support career progression within the University.

Two Ticks Disability: Guaranteed Interview Scheme (GIS)
The University of Liverpool is committed to the employment of disabled people, and as part of our commitment, we guarantee to interview all disabled applicants who meet the essential criteria for a post and consider them on their abilities. If your disability prevents you completing the application form by the specified closing date, or when the vacancy closes early, due to a high volume of applications, please call the Recruitment Team to discuss alternative arrangements.
http://www.liv.ac.uk/working/jobvacancies/guaranteedinterviewscheme/

Volition Programme
The University of Liverpool supports the Liverpool Anglican Cathedral Volition Programme. Applicants who have successfully completed the programme and meet the essential criteria for the post will be offered a guaranteed interview. Please note that individuals will be confirmed through the Volition Programme directly.
http://www.liv.ac.uk/working/jobvacancies/volitionprogramme/

GiveGetGo Volunteer Programme
Applicants who have successfully completed the GiveGetGo Volunteer Programme at the University in Partnership with the Transform Lives Company who meet the essential criteria for the post will be offered a guaranteed interview. Please note that individuals will be confirmed through the GiveGetGo Volunteer Programme directly.
https://www.liverpool.ac.uk/working/jobvacancies/givegetgo/

Accessibility
If you require copies of documentation in alternative formats, for example, large print or Braille, please contact jobs@liverpool.ac.uk or telephone 0151 794 6771.

If you have any other requirements which will help you access the application or interview process or employment opportunities at the University of Liverpool, please let us know by contacting jobs@liverpool.ac.uk or telephone 0151 794 6771.

Pension
The Occupational Pension Scheme associated with this appointment is the Universities Superannuation Scheme (USS). You are encouraged to familiarise yourself with the full particulars of the scheme which can be found here.