Research Assistant (Part-Time, 50%)

SCHOOL OF NATURAL & COMPUTING SCIENCES

Closing date: 14 December 2021
Interview date: TBC
Reference number: NCS186R
INTRODUCTION

The School of Natural and Computing Sciences is a vibrant and dynamic centre, internationally renowned for excellence both in teaching and research. It currently comprises four academic units, namely: Chemistry, Computing Science, Mathematics and Physics. Hosting over 95 academic and research staff, 60 research students, 120 postgraduate taught students and 690 undergraduates; it is a close knit and friendly community, based on the main campus at King’s College.

The School offers a range of undergraduate and taught postgraduate degree programmes, and in 2020 launched its first joint-degree at the University of Aberdeen’s Qatar campus.

Data Science & Artificial Intelligence have been recognised as a priority for the University as part of its ‘Aberdeen 2040’ strategy, and the School is looking to significantly increase its strengths in these and related areas.

The School's strategic focus lies across the themes of Artificial Intelligence (AI) and Trust, Identity, Privacy and Security (TIPS), and we particularly encourage candidates who work at the intersection of theory and application within these areas to apply. Within AI, application domains include cybersecurity, energy, food technology and healthcare, while theoretical research encompasses human/machine collaboration, natural language technologies and explanation, as well as machine learning and multi-agent systems. The TIPS theme focuses on computational trust and reputation systems; cybersecurity, blockchain technologies and provenance with application areas including healthcare and the digital economy. Successful applicants would be expected to strengthen the School’s interdisciplinary collaborations across the University and with industry through funded research.

Computing Science currently has 19 members of academic staff, together with around 40 doctoral researchers and PhD students. Research is underpinned by a strong and broad funding portfolio based around our two themes, with nearly £4M in funding over the past five years from research councils, charities, the EU, and industry. In REF2014, the department was ranked 16th in the UK in terms of research intensity, with 75% of outputs ranked as 3* or 4*. Much of the research is interdisciplinary in nature, reflecting the department’s involvement with, and funding from, the RCUK Digital Economy theme; most notable of which was the award of a Digital Economy Hub (2009-2015).

Recent research awards within the department relevant to the proposed appointment include Accountable Intelligent Systems (EPSRC, 2019-2022), and Interactive Natural Language Technology for Explainable Artificial Intelligence (EU, 2019-2023).

Computing Science runs two highly successful taught MSc programmes: a specialist MSc in Artificial Intelligence, and an MSc in Information Technology; a third taught MSc in Cybersecurity will launch in autumn 2021. At the undergraduate level, teaching revolves around the 4-year BSc (Hons) degree, as well as multiple joint degrees taught with other disciplines. International partnerships include a 2+2 articulation programme in Computing Science and Software Engineering with South China Normal University, with students from SCNU joining the Aberdeen Honours programme in third year. Successful applicants will be expected to undertake teaching across the Computing Science teaching portfolio.

JOB DESCRIPTION

MAIN PURPOSE OF THE ROLE:

We are seeking to appoint an exceptional part-time Research Assistant in underwater object detection to join the Department of Computing Science, University of Aberdeen. You will join a team of staff and collaborators within School of Biological Science to lead the analysis of novel large-scale underwater object data sets with the goal of recognise the species of sea animals. You will work to harness expertise across School of Biological Science, School Natural and Computing Science and other project collaborators, allowing you a unique opportunity to advance your image processing skills.
We seek expertise in underwater object detection and image processing to

- Contribute to study design
- Lead permissions and approvals
- Coordinate the creation of new linked data
- Analyse, visualise and interpret data sets.
- Work with colleagues to apply deep learning and image processing approaches to developed underwater object detection and recognition system.

KEY RESPONSIBILITIES:
Part-time Research Project in Underwater Object Detection

- Analyse unique large-scale underwater image data sets with the goal of improving the performance of object detection and recognition in underwater scenes.
- Manage and coordinate personal activities across a number of projects
- Collaborate as an enthusiastic and effective team member
- Conduct high quality research, providing sustained and active support for departmental research
- Some participation in general academic administration and research support duties

CANDIDATE BACKGROUND

We are looking for an exceptional researcher to join our team

You will have a Bachelor (or equivalent) in a relevant discipline.

You should demonstrate capacity in a relevant area of signal processing, deep learning, and a strong understanding of underwater object detection and recognition.

You will have significant programming experience programming and/or an understanding of algorithmic concepts.

Experience of working with large data sets, secondary data analysis of routinely-collected administrative and underwater image data, and visualisation of complex data is desirable.

You will be committed to working to high standards of data analytical transparency and reproducibility.

You will demonstrate experience of working within, interdisciplinary teams.

You will be ambitious, enthusiastic, have excellent communication skills, good team-working, organisational and interpersonal skills.
**TERMS OF APPOINTMENT**

Salary will be at the appropriate point on the Grade 5, £28,756 - £32,344 per annum, pro rata and negotiable with placement according to qualifications and experience.

Any appointment will be made subject to satisfactory references and probation period.

For further information on various staff benefits and policies please visit [www.abdn.ac.uk/staffnet/working-here](http://www.abdn.ac.uk/staffnet/working-here).

This role is based in the UK and as such the successful candidate will be required to live and work in the UK.

The candidate appointed to this post may be eligible for homeworking on an occasional or regular basis. For more information, please refer to our [Homeworking Policy](http://www.abdn.ac.uk/staffnet/working-here).

This post does not meet the minimum requirements for visa sponsorship under the Skilled Worker Route. We are therefore unable to consider applicants for this post that require sponsorship to work in the UK.

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**AT A GLANCE**

**SALARY:**
Grade 5  
£28,756 - £32,344 per annum, pro rata

**HOURS OF WORK:**
50% FTE, 18.75 hours per week

**CONTRACT TYPE:**
Project limited (until March 31st, 2022)

**LOCATION:**
Aberdeen
## Person Specification

### Education/Qualifications

**Academic, technical and professional education and training**
- Bachelor (with 1 class) or master (with at least 2.1) in mathematics, mechanical engineering, computer science or a related discipline

### Work and Other relevant experience (including training)

**e.g. Specialist knowledge, levels of experience, supervisory experience, research**
- Demonstrated capacity for high-quality research and publication in a relevant area of data science
- Strong quantitative analytical skills, and a strong understanding of machine learning and underwater object detection application
- Experience of working with large data sets, secondary data analysis of routinely-collected administrative, and visualisation of complex image data
- Familiarity with advanced computer vision approaches

### Personal qualities and abilities

**e.g. initiative, leadership, ability to work on own or with others, communication skills**
- Have a high level of analytical capability and an enquiring, critical approach to work
- Excellent written and verbal communication skills
- Good interpersonal skills with the ability to interact constructively with a wide range of colleagues
- You will demonstrate experience of working within, interdisciplinary teams as well as on own.
- Willingness and ability to undertake administrative and research support duties
- Experience in managing more than one project with competing time demands
- Knowledge of equality and diversity in the work place
- Experience of interdisciplinary collaboration

### Other

**e.g. special circumstances (if any) appropriate to the role such as unsocial hours, travelling, Gaelic language requirements etc.**
- Willingness to travel to national and international meetings, fieldwork with research collaborators.
open to all and dedicated to the pursuit of truth in the service of others

The University of Aberdeen is a broad based, research intensive University, and we put students at the centre of everything we do. Outstanding in a wide range of discipline areas, Aberdeen is credited for its international reach and commercialisation of research ideas into spin out companies. The University has over 16,000 matriculated students and 3,600 staff representing 130 nationalities. We encourage bold thinking, creativity and innovation, and we nurture ambition with many opportunities for professional and personal development in an inclusive learning environment which challenges and inspires.

CURRENT CONTEXT

The University continues to build on its achievements. Underpinning our high performance and significant growth is a £100m investment in Aberdeen’s estate which will include the completion of a new Science Teaching Hub, the regeneration of the historic King’s Quarter and a new Business School building. The University has also invested in 50 new academic posts and in 2020 launched five interdisciplinary, cross-institution Research Centres that will catalyse world-leading research in our areas of strength. Our five Interdisciplinary Challenges are: Energy Transition; Social Inclusion and Cultural Diversity; Environment and Biodiversity; Data and Artificial Intelligence; and Health, Nutrition and Wellbeing.

ABERDEEN 2040

On our 525th anniversary as a University we launched Aberdeen 2040, our strategic vision for the next 20 years. Four strategic themes will shape our learning and discovery, underlined by 20 commitments we have made against each theme:

- **Inclusive**
  We welcome students, staff and partners from all backgrounds, organisations and communities. We value diversity.

- **Interdisciplinary**
  We innovate in education and research by generating, sharing and applying new kinds of knowledge. We learn together.

- **International**
  We connect with others and extend our networks and partnerships around the world. We think across borders.

- **Sustainable**
  We understand and nurture our environment, and take care of our resources, including our people and finances. We work responsibly.
OUR EDUCATION
Recognised as the Scottish University of the Year in the Times and Sunday Times Good University Guide 2019, we remain true to our roots as an ancient Scottish university, combining breadth and depth in our degree programmes and drawing strength from the quality of our research. Our flexible curriculum encourages students to grow as independent learners and therefore to thrive as graduates in the diverse workplaces of the future. Our education is open to all and we are setting ambitious targets to further widen access.

OUR RESEARCH
Researchers at the University of Aberdeen have been at the forefront of innovation and excellence throughout the centuries, generating insights in medicine, science, engineering, law, social sciences, arts and humanities. This research has contributed to five Nobel prizes as well as other awards such as the Queen’s Anniversary prize. Our research is intellectually rigorous working within our established areas of excellence as well as new methods of enquiry. We will continue to generate new knowledge addressing economic and societal issues with ambition and imagination, ensuring that it is globally excellent and locally relevant.

INTERNATIONAL
Aberdeen is increasing its international presence, positioning the University as a global organisation and building on established global partnerships in e.g. Qatar, China, North America, Europe. We feature in the top 50 institutions worldwide for international students¹ and have been named 32nd in the world for International Outlook². The University of Aberdeen is proud to be the first UK University to operate on a dedicated campus in Qatar. Phase 1 of this partnership with AFG College has successfully recruited over 600 students. Phase 2 will see the creation of a substantially larger campus, with capacity for at least 5,000 students and research activity. For further information on our Qatar campus visit www.abdn.ac.uk/qatar.

IMPACT
Our dedication to building a sustainable future is reflected in the Times Higher Education Impact Rankings 2021 where we were ranked in the top 60 Universities worldwide for positive impact on society. In 2020 the University signed the United Nations Sustainable Development Goals accord, solidifying our commitment to developing the world in a sustainable way. In 2021 we were listed in the global Top 50 for 6 of these goals and in the UK Top 20 for all 17³.

¹ Times Higher Education World University Rankings 2021
² QS World University Rankings 2021
³ Times Higher Education Impact Rankings 2021
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Scotland’s third largest city, Aberdeen sits on the coast between the mountains of Aberdeenshire and the stunning North Sea coastline. The Aberdeen City region is a can-do place that is actively investing, at scale, in its future.

Renowned as a Global Energy Hub, Aberdeen is a vibrant, entrepreneurial region, home to a unique mix of business opportunities and specialist skills across various sectors including energy, technology, life sciences and food & drink. More than 20% of Scotland’s top businesses are located in this region which is taking great strides to ensure that it continues to compete on a world stage. Investments of more than £10 billion of public and private infrastructure is due to be delivered before 2030, marking an exciting time to be part of a genuine world-class location.

Built from sparkling local granite Aberdeen has earned the name of the Silver City. As the energy capital of Europe, Aberdeen nevertheless retains its old-fashioned charm and character making it an attractive place in which to live, work and study. Due to its global business and international energy industry credentials, Aberdeen is well served by local and national transport infrastructure with excellent rail networks that run both North and South of Scotland and the rest of the UK. It also acts as an international travel hub. Flying time to London is just over one hour with regular daily flights and serves international travel to European centres such as Amsterdam (Schiphol) and Paris (Charles de-Gaulle) as well as flights to other European destinations.

The City and the surrounding countryside provide a variety of urban, seaside and country attractions. Aberdeen has first class amenities including His Majesty’s Theatre, Music Hall, Art Gallery, the P&J Arena, Museums, and Beach Leisure Centre. The City is framed by its accessible beach front which is within a short walk of the city centre and there are an array of activities available across the region such as hill walking; mountaineering; sailing; surfing; salmon, trout and sea fishing; golf; sailing; surfing and windsurfing. The surrounding countryside, known as Aberdeenshire, is also one of Scotland’s most appealing regions. Royal Deeside and the Cairngorms National Park are within easy access of the city, and there are a variety of towns and villages scattered along the coastline.

The city and the surrounding area have ranked consistently highly in nationally recognised quality of life surveys, coming out top 10 as one of the best places to live in Scotland in 2020 in the annual Bank of Scotland survey.

To find out more visit www.visitabdn.com
EQUALITY AND DIVERSITY

The University values a diverse working environment and recognises the benefits this can bring. The University is keen to receive applications from individuals from across all of the equality protected characteristics (age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, sexual orientation).

The University supports opportunities for flexible working for a range of reasons and has policies in place to facilitate this. The policies can be found at https://www.abdn.ac.uk/staffnet/working-here/flexible-working--5607.php.

The University’s commitment to gender equality has been recognised through the achievement of an Athena SWAN Bronze award at an institutional level and across all its subject areas. The University is also a Stonewall Diversity Champion to further LGBT+ equality.

The University is signed up to Advance HE’s Race Equality Charter, affirming the University’s commitment to the charter’s aim of improving the representation, progression and success of minority ethnic staff and students within higher education.

Candidates who are British Sign Language (BSL) users can contact us directly by using contact SCOTLAND-BSL.

The University is delighted to be accredited as a Disability Confident employer and strives to ensure that disabled staff and students have the opportunity to work and study in an inclusive, accessible and supportive environment.

www.abdn.ac.uk/staffnet/governance/equality-and-diversity-277

HOW TO APPLY

Online application forms are available at www.abdn.ac.uk/jobs

The closing date for receipt of applications is 14 December 2021

Should you wish to make an informal enquiry please contact:

Dr Dewei Yi
dewei.yi@abdn.ac.uk

Please do not send application forms or CVs to Dewei Yi.

Please quote reference number NCS186R on all correspondence