SVGC Ltd

Job Ref: REQ240233

Job title: AI and NLP Scientist/Engineer (KTP Associate)

Period: 12 months (up to 15 months, subject to grant approval)
Salary: £33,000 - £37,000 per annum (Starting salary to be confirmed on offer of appointment) plus £2,000 per annum training budget
Application deadline: Sunday 14 April 2024
Interview date: week commencing 22 April 2024

Candidates must be in post by June 2024 due to grant funding. Therefore, due to the time required for security clearance for the role, only those who are currently resident in the UK and have the right to work in the UK, are eligible to apply.

Key words: Computer Science, Artificial Intelligence, Natural Language Processing, Information Retrieval, Neural Networks, Deep Learning, Machine Learning

Project Title: To develop semi-automated technology for digital record processing, archiving, curation and retrieval for government departments and public sector bodies.

About the Project

We are seeking a highly motivated individual with relevant skills to join the project team delivering a 12-month project between Loughborough University and SVGC Limited, funded by UKRI Innovate UK.

You will join one of the UK's Top research-led universities (REF 2021) and a highly-ranked Computer Science Department with access to a wide range of high-spec computing facilities including HPC, deep learning machines and workstations with the most recent high performance GPUs and servers.

Working within the SVGC company, together with academic partners from Loughborough University the successful applicant will develop AI-based Natural Language Processing tools for digital record processing, archiving, curation and retrieval for government departments and public sector bodies. These automated processing methods will enable de-duplication of files and identification of content ensuring legislative compliance with the Public Records Act.

About the KTP Associate

The successful candidate will be an enthusiastic, with good interpersonal and transferable skills to enable technical delivery, programme management, marketing and advocacy for AI technologies.

The candidate will be qualified to PhD level in Computer Science (or related discipline) or to Masters with equivalent research experience.

Strong Python (or similar) programming skills are essential, and practical experience in Natural Language Processing are desirable. Implementation of software prototypes for commercial deployment will require the associate to work closely with the industry team with a focus on early and pro-active integration with existing deployed test systems. Skills in Docker and container orchestration are desirable.

Able to deliver as part of a team, the ideal candidate will possess good interpersonal skills, demonstrate effective leadership and self-organisation skills and will be a good communicator able to describe technical concepts to a commercial audience. Experience in authoring technical reports and/or academic publications will be advantageous.

The KTP Associate will be based primarily at the Company premises in Hanslope Park, Milton Keynes, working as part of an integrated Data Science, Artificial Intelligence and Software Development team. The associate will also spend some time at Loughborough University. The Associate will be supervised for the Company by Anthony Wynne (SVGC Senior Data Scientist) and for the Knowledge-Base by Prof. Georgina Cosma and Dr Andrea Soltoggio who are experts in Data Science and Artificial Intelligence (AI) including Natural Language Processing, Information retrieval tasks and highly-adaptive deep neural systems at the Department of Computer Science at Loughborough University. They will also be supervised by industry supervisors, and have access to a range of R&D training & support, HPC and high-spec machines.

For more information contact: Prof. Georgina Cosma (G.Cosma@lboro.ac.uk)

Introduction to SVGC https://svgc.co.uk/

SVGC Limited, have supplied business services to the UK public sector for over 26 years. This specific relevant activity is delivered in collaboration with FCDO Services, a trading fund of FCDO. As specialist defence and security consultants, SVGC provide innovative digital solutions and have developed a strong reputation across the defence, security and wider public sector in the UK. Clients include the Ministry of Defence, Foreign, Commonwealth and Development Office, Home Office, and the Cabinet Office.

Focusing on business transformation and digital solution development, SVGC deliver products and services including:
• Digital transformation of business processes
• Data-evidenced decision management
• Analytics generating value from large and complex data
• De-duplication of data and identification of sensitive content
• Legislative compliance with the Public Records Act.

Loughborough University Department of Computer Science
Loughborough University is a top-10 UK university, consistently ranked highly by the Guardian and other

league tables. Its position as a research-leading university is confirmed through outstanding research in science and engineering and world-class research facilities. It has been awarded a record of seven Queen's Anniversary prizes for its research impact to society and UK industry.

Founded in 1974, the Department of Computer Science was one of the first university computing departments established in Great Britain. It is a part of the Loughborough University School of Science.

It has an excellent research track record in AI, machine learning, robotics, computer vision, deep learning, data science, HCI, IoT, digital technologies, wireless sensor systems with projects funded by the Innovate UK, EPSRC, TSB, EU, NHS, Ministry of Defence, Home Office, KTP and industry. In addition to having a strong track record of fundamental research, a particular focus of its research is applied research aimed at creating research and economic impact by supporting industry. A recent £100,000 upgrade of high-end GPU based research computing facilities now complements a £9m purpose-built research and teaching space investment. A range of ongoing projects in these areas will provide excellent research environment for this project.

Job Description and Person Specification

Job Grade: Other

Job Purpose

The KTP Associate will:

- Undertake technical reviews based on user needs; validate gaps and capture requirements, articulating challenges and opportunities for AI information retrieval in the target solution environment.

- Understand and apply solutions able to be integrated within the current and future product designs for development of information retrieval systems.

- Apply theoretical concepts and academic knowledge in AI, and natural language processing in a challenging real-life industrial application within technical, operational and legal boundaries.

- To manage relationships with numerous project stakeholders with diverse agendas including existing and new SVGC clients.

- Encourage the next generation of data science and AI professionals, implementing AI strategies within industrial contexts and progressing concepts through to commercialisation.

- Strive to meet the company's competitive and time-critical commercial R&D technical development challenges environment, delivering high-quality research outputs to deadlines.

- Understand the dynamic nature of industrial requirements, adopting an agile project management strategy to mitigate any potential risks.

- Explore intellectual property solutions in line with the company IP strategy.

- Prepare reports on technical contribution as part of the set of company deliverables and contribute to academic research papers.

Job Duties

- Carry out the KTP project tasks and deliver the outcomes as outlined in the project plan.

- Manage the project and integrate the findings within he broader project team activity.

- Undertake KTP management training, as well as other courses as deemed necessary.

- Write R&D reports as part of the set of client deliverables, and present summaries of these at the Local Management Committee (LMC) meetings, as well as at national conferences and symposia with other members of the project team.

- Prepare research papers for publication in highly acclaimed learned journals, in line with the expected scholarly activities of the University Research Staff, but in accordance to the commercial sensitivity of collaborating companies.

- Travel to Company clientele and to various other locations within the UK, as required.

- To undertake such other duties as may be reasonably requested and that are commensurate with the nature and grade of the post.

Points to Note

The purpose of this job description is to indicate the general level of duties and responsibility of the post. The detailed duties may vary from time to time without changing the general character or level of responsibility entailed.

Previous KTP associates or employees of SVGC are not eligible to apply for this KTP.

Applicants must have completed their last qualification (degree, masters, PhD) no more than five years before closing date.

Special Conditions

All staff have a statutory responsibility to take reasonable care of themselves, others and the environment and to prevent harm by their acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Policy & Procedures.

All staff should hold a duty and commitment to observing the University's Equality & Diversity policy and procedures at all times. Duties must be carried out in accordance with relevant Equality & Diversity legislation and University policies/procedures.

Successful completion of probation will be dependent on attendance at the University's mandatory courses which include
Respecting Diversity and, where appropriate, Recruitment and Selection.

UK Security Clearance is a requirement for this role. The candidate will be required to apply for UK Security Check (SC) following selection. SVGC will support the candidate in this process. M ore information is available here: https://www.gov.uk/government/publications/united-kingdom-security-vetting-clearance-levels/national-security-vetting- clearance-levels

Organisational Responsibility

Reports to: Prof Georgina Cosma and Dr Andrea Soltoggio

Person Specification

Your application will be reviewed against the essential and desirable criteria listed below. Applicants are strongly advised to explicitly state and evidence how they meet each of the essential (and desirable) criteria in their application. Stages of assessment are as follows:

1 – Application
2 – Presentation
3 – Interview

Essential Criteria

Area	Criteria	Stage
Qualifications	PhD level Computer Science (or related discipline) or to Masters with equivalent research experience.	1,2,3
Skills and abilities	Strong programming skills, e.g. Python, C++	1,2,3
	Practical experience in Deep Learning, Deep Neural Networks and/or Natural Language Processing.	1,2,3
	Good leadership and organisation skills.	1,2,3
	Able to deliver as part of a team and work alone.	1,2,3
	Good presentation and communication skills.	2,3
	Experience in describing technical concepts to a business audience.	2,3
Experience	Implement and integrate software prototypes for deployment.	1,2,3
	Experience in successful project delivery through application of technical skills to solve real-world challenges.	1,2,3
	Experience in building professional networks with industry, public sector or academic teams.	1,2,3
Training	Willingness to undertake KTP training modules and other training as appropriate.	3
Other	To observe the University Equal Opportunities policies at all times.	3
	Has existing or is able to achieve UK Security Clearance	1,2,3

Desirable Criteria

Area	Criteria	Stage
Experience	Experience of working in a commercial environment managing projects or programmes to deliver against deadlines within agreed performance metrics.	1,2,3
	Experience in authoring technical reports and academic publications.	1,2,3
	Work in business or a position in the commercial sector	1, 2, 3
Skills and abilities	Skills in docker and container orchestration.	1,2,3
	Skilled in web development (e.g. Django) including graphical user interfaces.	1,2,3
Other	Licensed to drive in the UK	1,3

Conditions of Service

The position is FULL TIME and FIXED TERM for 12 months. Salary will be between **£33,000 and £37,000** per annum at a starting salary to be confirmed on offer of appointment. The successful applicant will also receive a £2,000 per annum training budget.

The appointment will be subject to the University's normal Terms and Conditions of Employment for Academic and Related staff/Operational and Administrative staff, details of which can be found here.

We strive to create a culture that supports equality and celebrates diversity throughout the campus. The University holds a Bronze Athena SWAN award which recognises the importance of support for women at all stages of their academic career. For further information on Athena SWAN see http://www.lboro.ac.uk/services/hr/athena-swan/.