Candidate Information

Position:	Machine Learning Data Scientist - KTP Associate - Liberty IT
School/Department:	KTP and Business Networks
Reference:	20/108252
Closing Date:	Thursday 16 July 2020
Salary:	£24,000 - £35,000 per annum. One of the key KTP benefits for graduates is access to a £8,500 training and travel budget over the 24 month project.
Anticipated Interview Date:	Wednesday 29 July 2020
Duration:	24 months

Job Purpose:

Liberty Mutual seeks to exploit the field of AI to help drive efficiency within their core Claims and Underwriting value claims. The goal of this KTP is to use computer vision to drive efficiency and increase customer satisfaction.

Main Activities and Responsibilities:

Through the KTP programme we wish to recruit a highly skilled postgraduate to work in Liberty IT (Belfast) on a collaborative project with the Institute of Electronics, Communications and Information Technology (ECIT) at Queen's over 24 months.

Based in Belfast, Liberty IT is a wholly owned subsidiary of The Liberty Mutual Insurance group. Liberty Mutual Group is fortune 100 Insurance company that sells Insurance worldwide in over 17 countries. Liberty IT is part of the Liberty Mutual technology department that builds and maintains technology solutions for Liberty's global business. We are technology experts, heavily involved in influencing the technology direction for the Liberty Mutual group and driving digital transformation across all business units. We specialize in innovation and introducing new capabilities to the wider organisation. Liberty IT (Belfast) want to develop significant capacity in data science in order to strategically lead the next generation of innovations in the insurance sector through data-driven technologies, and help Liberty Mutual reinforce and expand its position as a global leader.

With support and guidance from the company and academic supervisors the KTP Associate will lead on the delivery of the following key project stages:

1. Data capture and preprocessing. Using Datasets for initial Deep Learning modules (detection, segmentation and classification) development and analysis. Groundtruthed datasets (metadata only, region segmentation and video sequences) to train and test damage detector and car parts detection.
2. Vehicle detection and segmentation using Deep Learning. Proof of concept for the Vehicle Detector algorithm and associated code, documentation, test data uploaded to Liberty IT software repository.
3. Vehicle Fine-grain Identification.
4. Proof of concept for damage estimation algorithm and associated code, documentation and test data uploaded.
5. Extension to Video Sequences.
6. System Integration, testing and demonstration.

Planning and Organising:

1. Manage and coordinate the items of work as laid out in the project plan (individual work plan will be provided by Supervisors).
2. Plan day-to-day activity within the framework of the agreed work plan.
3. Contribute to the planning and management of the project, approximately 3-6 months in advance.
4. Ensure that all training and development activity is scheduled to ensure that progress on the work plan objectives is not interrupted or delayed.

Resource Management and Responsibilities:

1. Plan and manage day-to-day resources to ensure the project runs to time and on budget.
2. Coordinate and obtain approval for planned expenditure/allocation of resources with the Management Committee and Steering Group.

3. Carry out supervision of placement students or other staff members as required.
4. Monitor travel and development budgets and produce a Personal Development Plan which will ensure best use of financial resources.
5. Attend training modules (mandatory and additional job-specific training). This may be local, national and international.
6. Perform any other additional duties as agreed by the Local Management Committee and Steering Groups to contribute to the development of the company, the university and the Associate.

Internal and External Relationships:
1. Present regular progress reports to members of the Steering and Management Groups and to external audiences.
2. Liaise with company staff on a daily basis. Contribute to training of staff in the company and university as required.
3. Build relationships with both company and university staff to ensure effective working practices are established.
4. Attend and contribute to any appropriate meetings, both in the company and the university as required.
5. Establish contacts with additional groups and organisations (other KTP Associates, other university departments, other industrial contacts, and Innovate UK) as required to develop knowledge and understanding and form relationships for future collaboration.
6. Act as an Ambassador for the Knowledge Transfer Partnership Scheme.

Additional Information:
1. Knowledge Transfer Partnerships help forward thinking companies innovate for growth. They do this by connecting organisations who have an innovative idea with the knowledge and expertise to help deliver it. This dynamic three-way partnership formed between an inspired graduate, the university and the company means that the graduate, known as the KTP Associate, provides the link between an expert academic team and a dynamic organisation. This bridge gives the graduate unique and exceptional access to both world class academic support and experts from within the business.
2. A KTP provides a fulfilling employment opportunity where you can apply your knowledge to turn a key strategic innovative idea into reality and although the KTP Programme is aimed at recent graduates, any suitable qualified graduate may apply. Each KTP Associate role is a fully salaried job and last between 12 months and three years with approximately 70% of Associates offered employment by the host business at the end of the project. Projects can be in any sector and for businesses of all sizes. Each KTP Associate will have a travel / training budget to provide funding for job-specific training and further professional development. Two, one week residential management training modules are also included as part of the package.
3. For all KTP projects, the graduate is employed by the University but contracted to work in the business, under the business' basic terms and conditions including holidays and hours of work. As a member of University staff, KTP Associates can join the University pension scheme, gain access to University resources including the Library and sports facilities.
4. KTP aims to help businesses improve their competiveness and productivity through the better use of knowledge, technology and skills held within the UK knowledge base. KTPs are funded by UKRI through Innovate UK with the support of co-funders, including the Scottish Funding Council, Welsh Government, Invest Northern Ireland, Defra and BEIS. Innovate UK manages the KTP Programme and facilitates its delivery through a range of partners including the Knowledge Transfer Network (KTN), Knowledge Bases (in this case, Queen's University Belfast) and Businesses.
More details about are available at www.ktp-uk.org

Essential Criteria:
1. Hold, or be about to obtain in July 2020, at least a 2.1 (or equivalent) in a Masters degree or higher in Computer Science, Mathematics or another quantitative field.
2. At least 6 months' relevant work or research experience*.
*can include relevant experience gained through a student project, module, work placement or a higher degree.
3. Demonstrable proficiency in programming and experimental analyses with Python or R programming languages.
4. Proven knowledge of natural language processing, Artificial intelligence or machine learning.*
*can include relevant experience gained through a student project, module, work placement or a higher degree.
5. Proven ability to collaborate and contribute in a multi-disciplinary team of Data Scientists, Machine Learning Engineers and Software Engineers.
6. Good oral written and presentation skills.
7. Experience of report authoring.
8. Ability to think logically, create solutions and make informed decisions.
9. A high level of numeracy and the ability to interpret data.
10. Strong problem-solving skills with an emphasis on product development.
11. Ability to work effectively as a member of a group.

12. Well organised, attention to detail and ability to meet tight deadlines.
13. Excellent time management skills.
14. Ability to understand the needs of multiple stakeholders.
15. An interest in staying with the Company. (Associates are normally invited to apply for permanent positions).
16 Ability to take part in Associate management courses (requiring two one-week periods in England).
17. Willing/able to travel throughout the UK and Ireland and abroad, as necessary.

Desirable Criteria:

1. Hold, or be about to obtain, a PhD in a relevant area.
2. At least 1 year's relevant work or research experience.
3. Experience of deep neural networks.
4. High proficiency in the use of Python.
5. Demonstrable experience in using deep learning frameworks.
6. Experience of Project Management.
7. Experience of knowledge transfer from academia to industry.
8. Experience of academia- industry linked research/technology transfer from academia to industry.
9. Experience of working in a commercial/industry setting.
10. Ability to deliver training and follow-up support to operatives.
11. Ability to influence people effectively.
12. Tenacious and committed to achieving goals.