

Candidate Information

Position:	Machine Learning Research Engineer – KTP – Cirdan Imaging Ltd
School/Department:	KTP and Business Networks
Reference:	18/106947
Closing Date:	Tuesday 4 December 2018
Salary:	£30,000 - £36,000 per annum. One of the key KTP benefits for graduates is access to a £10,625 training and travel budget over the 30 month project.
Anticipated Interview Date:	Friday 14 December 2018
Duration:	30 Months

JOB PURPOSE:

Established in 2010, Cirdan is a leading supplier of software and imaging solutions for clinical laboratories. Our mission is to “Improve Wellbeing Through Innovation” in which we help deliver through our products which are currently installed in numerous prestigious and diverse healthcare organisations throughout the world. Cirdan is an exciting and fast-growing medical devices company headquartered in Northern Ireland with offices in Canada and Australia. Cirdan’s core products are used by customers across six continents helping to improve efficiency and streamline laboratory operations.

We wish to recruit a highly skilled and motivated graduate to work in Cirdan in collaboration with Queen’s University Belfast over 30 months. Through this Knowledge Transfer Partnership, this project aims to enhance pathology medical device products with clinical expert intelligence derived from an embedded deep learning system. The postholder will be based in Cirdan’s headquarters in Lisburn, Northern Ireland.

The KTP Associate, under the guidance of company and academic supervisors, will deliver the following key project phases:

MAJOR DUTIES:

1. Training in Neural Network Theory and Implementation.
2. Design, implementation and evaluation of deep learning neural network for detection of calcification in breast mammograms using Pytorch.
3. Design, implementation and evaluation of deep learning neural network for detection of abnormal polyps in colon pathology images.
4. Implement final calcification detection architecture in C++ for beta version of deep learning based visualisation software tool that contains detection functionality.
5. Deployment in a real world environments including Cloud and identify and build customer relationship prior to a collaborative trial.
6. Evaluation and roadmap planning. Review the project and prepare a set of recommendations for future direction.

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 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.

ESSENTIAL CRITERIA:

1. Hold a 2.1 Honours degree (or equivalent) in Computer Science or a related subject such as Maths, Physics or Engineering.
2. At least 6 months' relevant work or research experience.*
3. Proficiency in programming and experimental analyses with one or more programming languages such as C++, Java or Python.
4. Good oral written and presentation skills.
5. High level of IT skills.
6. Ability to think logically, create solutions and make informed decisions.
7. A high level of numeracy and the ability to interpret data.
8. Ability to work effectively as a member of a group.
9. Self Motivated.
10. Well organised, attention to detail and ability to meet tight deadlines.
11. An interest in staying with the Company. (Associates are normally invited to apply for permanent positions).
12. Ability to take part in Associate management courses (requiring two one-week periods in England).
13. Willing/able to travel throughout the UK and Ireland and to Company's clients in North America, Australia and Europe.

*can include relevant experience gained through a student project, module, work placement or a higher degree

DESIRABLE CRITERIA:

1. Hold a 1st class Honours degree (or equivalent) in Computer Science or a related subject such as Maths, Physics or Engineering.
2. Hold, or be about to obtain, a higher degree (Masters or PhD) in a relevant discipline.
3. At least 1 year relevant work or research experience.*
4. Experience in mathematical modelling and optimisation.
5. Knowledge of machine learning.*
6. Knowledge of deep learning frameworks.*
7. Demonstrable experience in one or more of the following: computer vision, data analytics.
8. Demonstrable experience in using deep learning frameworks such as Pytorch.
9. Knowledge of medical device frameworks.
10. Ability to deliver training and follow-up support to operatives.
11. Ability to influence people effectively.
12. Takes the initiative with new ideas.
13. Tenacious and committed to achieving goals.
14. Prepared to step outside comfort zone.

*can include relevant experience gained through a student project, module, placement or a higher degree.

ADDITIONAL INFORMATION:

- Knowledge Transfer Partnerships is a UK programme that enables businesses to work with universities to gain access to specialist knowledge and expertise and apply it within their organisation. Each Partnership recruits a Graduate to work in the company, implementing and embedding the latest research techniques. Guidance is provided by the academic and company supervisors to ensure that the objectives of the project are met. Although the scheme is aimed at recent graduates, any suitably qualified individual may apply.
- Each KTP is a fully salaried job that lasts between twelve and thirty six months, providing the graduate with an opportunity to fast track a career in industry. Each KTP Associate has a training and development budget and a travel budget. This funding provides opportunities for job-specific training, attending and presenting at conferences, visiting trade shows, customers and suppliers etc. Two, one week residential management training modules are also provided as part of the package.
- As members of University staff, KTP Associates can join the University pension scheme, gain access to University resources such as the Library and sports facilities.

More details are available at www.ktpjobsni.com.