School of Science
ai.io

Job Ref: REQ241094

Job title: AI/ML Scientist for Sports Performance Analytics (KTP Associate)

Period: 30 months
Salary: £38,000 - £44,000 per annum inclusive of London Weighting (Starting salary to be confirmed on offer of appointment), plus £2000 per annum training budget

Key words: deep learning, computer vision, machine learning, AI, artificial intelligence, computer science, football video analysis, action quality assessment, machine vision, AI for sports.

Application deadline: Sunday 12th January 2025

Project Title: AI-powered Talent Scouting: Revolutionising Automated Football Player Performance Assessment

About the project

Vision: Traditional football scouting methods were costly and inefficient, relying heavily on human input and subjective judgment. ai.io aims to democratise football talent identification and development by leveraging AI technology, allowing players to connect with more scouts through simple mobile camera-based communication and a fair, consistent assessment process.

Objectives: ai.io have developed an AI-powered platform that automates the scouting process, enabling football organisations to reach, trial, analyse, engage, evaluate, develop, and scout millions of players worldwide. This KTP project will develop AI-driven technology for analysing scenes, objects and associated player movements in football footage captured via mobile cameras, assessing performance quality and understanding how environmental factors influence player outcomes.

KTP Associate Role: A Knowledge Transfer Partnership (KTP) is a unique collaborative partnership between businesses and universities to create a positive impact and drive innovation. The KTP Associate works with the business to implement innovative solutions to identified business challenges, using the knowledge and expertise gained through their academic training. The academic partner (Loughborough University) supports and guides the KTP Associate throughout the project.

This is an exciting opportunity for a forward-thinking and ambitious specialist in AI and its applications in sport science and technology to join ai.io, a tech company dedicated to developing solutions for analysing amateur and professional sports data and delivering real-time insights for core product services.

The associate will be required to develop and integrate state-of-the-art deep learning and computer vision technology to analyse mobile video data captured by customers, providing actionable insights and automating the talent discovery, analysis, and development process. It will improve drill metric scoring and feedback by accurately identifying the playing surface, players, and equipment. The primary focus will be on vision-based object detection, tracking, and movement interpretation. Knowledge of large language models will also enhance credibility.

The KTP Associate will be based primarily at the ai.io, Shaftesbury House, 151 Shaftesbury Ave, London, WC2H 8AL and will also spend some time at Loughborough University with the academic team. The Associate will be supervised by an academic team, led by Prof. Meng, Prof. Li and Dr Saada, who are experts in AI and vision-based human motion analysis in the Department of Computer Science, Loughborough. The Associate will form an integral part of ai.io Research and Development team, working closely with the ai.io supervisory team and company partners. As a KTP Associate, the successful applicant will have access to a wide range of commercial, R&D and management training programmes, as well as technical training resources and facilities at Loughborough University.

Introduction to ai.io
Darren Peries created ai.io after his son was released from the Tottenham Hotspur Academy. He realised there was a lack of objective data shared with other talent scouts. From this, Darren founded ai.io in 2017, Who are a London-based high-tech innovator, focused on revolutionising football talent identification, which has led to AI driven performance analytics across a variety of sports.

Our vision is to democratise access to talent development by allowing players to showcase their abilities via mobile technology, enabling scouts to assess them with a fair, data-driven approach.

Our core technologies include 1) 3D Athlete Tracking technology (3DAT) extracts and analyses athlete movements, powering our aiScout and aiLab products for both amateur and professional performance insights. 2) aiScout is a mobile talent analysis platform enabling clubs to scout and engage with amateur players globally. 3) aiLab is an elite performance suite for real-time physical and cognitive analysis, designed for players and club staff.

Join ai.io to shape the future of football scouting with AI, making talent discovery accessible and objective.

Loughborough University/Department Summary

Loughborough University is a top 10 university in the UK, renowned for its exceptional student experience and excellence in teaching, research, and sports. Its prestigious standing is reinforced by

outstanding research and innovation in science and engineering, along with world-class research facilities. The university has been awarded a record seven Queen's Anniversary Prizes for its significant impact on society and the UK industry.

Founded in 1974, the Department of Computer Science is one of the first university computing departments established in Great Britain. The department has an excellent research record in AI, machine learning, robotics, computer vision, deep learning, data science, HCI, IoT, digital technologies, and wireless sensor systems. In addition to our strong track record in fundamental research, a particular focus of our research is applied research to support industry and create significant economic and social impact.

In joining the highly ranked and fast-developing Department of Computer Science, the successful candidate will have access to a wide range of high-spec computing facilities. They will also have full access to robotics and AI laboratories equipped with cutting-edge camera/vision systems, sensors, robots and software platforms.

Loughborough University is also the world's leading research institution in sports science and technology.

Job Description and Person Specification

Job Grade: Other

Job Purpose

The KTP Associate will:

- Work with ai.io, Loughborough University and stakeholders, including technical multi-disciplinary scientists, academic experts, senior leaders, commercial and marketing teams and clients, identify gaps, opportunities, needs and technology for sporting talent scouting.
- The Associate will work closely with the project team to define scope, understand stakeholder needs, and anticipate industry trends, aligning data input, output, and integration technologies, whilst being collaborative and solution focused.
- Determine technical scope, objectives, and methodology for data-driven AI-enabled solutions for football talent identification.
- Propose state-of-the-art deep learning-based AI models for various vision tasks, including object detection and tracking (e.g., players and football), pose estimation, and scene/play surface recognition.
- Conduct experiments, testing, and evaluations of the developed AI models for both prototype and commercial trials
- Document work regularly, ensuring knowledge and outcomes are transferred to other team members at ai.io, embedding, recording, creating a repository throughout the project.
- Write reports and presentations, sharing these as project updates at supervision meetings, LMCs, advisory panel meetings, and other necessary forms of engagement and dissemination.
- Documenting work regularly and sharing knowledge with team members will facilitate smooth execution of R&D activities, testing, and deployment of the project.

Job Duties

- Carry out the KTP project tasks and deliver the outcomes as outlined in the project workplan.
- Manage the project and disseminate key deliverables/findings to the project team and key stakeholders.
- Undertake KTP management training, as well as personal development training and courses as deemed necessary.
- Prepare research papers for publication in journals/conferences, in line with the expected scholarly activities of the University Research Staff, and in accordance with the commercial sensitivity of collaboration partners.
- Assist with the capture of intellectual property.
- Develop and/or adapt fast and robust learning algorithms and models tailored for specific tasks related to movement quality assessment.
- Travel to ai.io business partners within the UK and possibly overseas, when necessary.
- 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.

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 Welcome to Loughborough.

We actively encourage applicants from women, disabled and Black, Asian and Minority Ethnic candidates, who can bring their experiences and voices to the partnership.

Organisational Responsibility

Reports to the KTP Lead Academic: Professor Qinggang Meng Q.Meng@lboro.ac.uk

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
Experience	Working experience in computer vision and image processing	1,2,3
	Algorithm development and software engineering	1,2,3
	Design and documentation of software architecture and application workflow	1,3
Skills	Experience in computer vision, deep learning, image processing	1,2,3
	Programming skill: e.g. Python, C++, deep learning platforms (e.g. PyTorch, TensorFlow).	1,3
	Experience in algorithm and software engineering	1,3
	Authoring original work, technical reports and presentations	1,2,3
	Good project management and team-work skills	1,3
	Strong real-world problem-solving skills	1,3
Qualifications	PhD with experience in AI and computer vision or having equivalent industry project experience	1,3
	MSc/BSc with practical skills (e.g. R&D projects) in deep learning and computer vision	1

Desirable Criteria

Area	Criteria	Stage
Knowledge	Deep learning for vision tasks (and large language models)	1,3
	Vision human motion analysis and sports performance assessment.	1,3
Experience	R&D projects.	1,3
	Working with a multidisciplinary team and undertake collaborative activities and tasks	1,3
Skills and abilities	Collect and preprocess data to build a custom dataset	1,3
	Developing robust AI solutions for real-world problems	1,3

	Ability to take part in collaborative activities and work with technical staff in other subject domains in a commercial environment.	1,3
Qualifications	Licenced to drive in the UK	1,3

Conditions of Service

The position is FULL TIME and FIXED TERM for 30 months. Salary will be between £38,000 - £44,000 per annum at a starting salary to be confirmed on offer of appointment. The successful applicants will also receive a £2,000 per annum training budget each.

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/.

Applications

The closing date for receipt of applications: Sunday 12th January 2025

The interviews will take place w/c 20th January 2025.

Due to the nature of the funding, the employment aims to start no later than 22nd June 2025. This job is applicable for applying for a Global Talent visa (if needed).

Informal Enquiries

Informal enquiries should be made to the Lead Academic, Professor Qinggang Meng Q.Meng@lboro.ac.uk , Professor Baihua Li, b.li@lboro.ac.uk