

Research Associate in Digital Health Interventions

Job Ref: REQ260736

The **School of Sport Exercise and Health Sciences (SSEHS)** is a multi-disciplinary school committed to fostering a diverse and inclusive academic community. It upholds the highest standards of excellence in research, innovation, and pedagogy across the full spectrum of disciplines within sport, exercise, health and wellbeing.

Internationally recognised for its contribution to the study of sport, exercise and health, the school has wide-ranging expertise, encompassing such diverse areas as biomechanics, medicine, molecular and cellular biology, nutrition, pedagogy, psychology, physiology, sociology, economics and sport management.

The School is extremely proud to hold an [Athena Swan Silver Award](#) since 2012, recognising the commitment and work of the School in addressing gender inequalities in Science and to improving career progress for female academics. The School is committed to ensuring that female students and staff are able to achieve their full potential; and provides a flexible and open working culture to enable staff to maintain a work-life balance.

Research and Innovation

Research and Innovation within the School is characterised by excellence and breadth, and its quality was recognised in the 2021 Research Excellence Framework where Loughborough University ranked top for research power (GPA x volume) in Sport and Exercise Sciences, Leisure and Tourism. Loughborough University has also placed Number 1 in the QS world ranking for sport-related subjects for ten consecutive years (2017-2026, every year since the category was introduced). A broad range of social and natural sciences contribute to the School's research and innovation activity which is organised within three overlapping themes:

- **Sport Research and Innovation theme** utilises several disciplines to understand how sport engages individuals, communities and organisations and supports the enhancement of athletes' performance in competitive sport.
- **Health Research and Innovation theme** brings together research from multiple disciplines with the shared goal of enhancing health, promoting healthy living, and improving wellbeing across all stages of life and all communities.

The school's research and Innovation (R&I) themes articulate with the Universities core strategic themes: Sport, Health and Wellbeing; Vibrant and Inclusive Communities; and Climate Change and Net Zero. [Strategic themes | Creating Better Futures. Together | Loughborough University](#)

Project Summary

The postholder will be based within the Centre for Lifestyle Medicine and Behaviour (CLiMB) in the School of Sport, Exercise and Health Sciences (SSEHS), and will contribute to an innovative interdisciplinary programme of research between SSEHS and the Wolfson School of Mechanical, Electrical and Manufacturing Engineering. The research will focus on developing personalised digital health interventions to support sustained lifestyle behaviour change (e.g. increasing physical activity) and improve health outcomes. The research will explore Just-in-Time Adaptive Interventions (JITIs) and micro-randomised trials (mRTs), alongside the application of machine learning, particularly reinforcement learning, to develop interventions that can dynamically adapt to individuals' changing needs, behaviours and contexts. The postholder will contribute across the design, development and evaluation of digital health interventions, using data from smartphones and wearable technologies to develop and test personalised approaches to health behaviour change.

Job Description

Job Family and Grade: Specialist and Supporting Academic (Research) Grade 6

Job Purpose

The postholder will contribute to cutting-edge research developing and evaluating personalised digital health interventions, including Just-in-Time Adaptive Interventions (JITAs) and micro-randomised trials (mRTs), using wearable and smartphone data. They will apply machine learning and reinforcement learning techniques to advance adaptive, data-driven interventions for health behaviour change, contributing to high-quality research outputs, funding applications and the development of the team's research programme.

Job Duties

- Conduct research studies in personalised digital health, including the development and evaluation of Just-in-Time Adaptive Interventions (JITAs) and micro-randomised trials (MRTs).
- Contribute to the design, development and implementation of digital health interventions using smartphone and wearable technologies.
- Develop and apply machine learning and reinforcement learning methods to personalise and optimise digital health interventions.
- Plan, organise and undertake data collection, management, processing and statistical/machine learning analysis using appropriate research methodologies and techniques.
- Interpret and synthesise research findings, contributing to the development of new insights, hypotheses and approaches within personalised digital health.
- Prepare and contribute to high-quality research publications, reports, conference presentations and other outputs, disseminating findings to academic, clinical and other relevant audiences.
- Contribute to the development of research proposals and applications for external funding, working with senior colleagues to identify and develop new research opportunities.
- Collaborate with researchers and external partners to deliver research projects, develop new research opportunities and contribute to the wider research programme.
- Develop and maintain appropriate internal and external research networks, representing the research project, School and University at meetings, seminars, conferences and other relevant events.
- Contribute to the research culture and activities of the School and University, and undertake other duties appropriate to the role and level of responsibility.

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 outlined in the document.

Organisational Responsibility

Reports to: Dr James Sanders, Lecturer in Digital Health

Direct Reports N/A

Budget Responsibilities: N/A

Structure Chart: N/A

Person Specification

Your application will be assessed based on the essential and desirable criteria listed below.

Applicants are strongly encouraged to explicitly demonstrate how they meet each essential (and desirable) criteria at the application stage. The criteria that you need to demonstrate in your application will be listed as Stage 1 in the table below.

Stages of assessment are as follows:

- 1 – Criteria measured within the Application
- 2 – Criteria measured at Test/Assessment Centre/Presentation
- 3 – Criteria measured at Interview

Essential Criteria

Area	Criteria	Stage
Experience	Experience of conducting research in digital health, behavioural science, health technology or a related field	1,3
	Experience of developing and/or applying machine learning models to research problem	1,3
	Experience of programming in a scientific/programming language such as Python, R or MATLAB, including use of appropriate statistical or machine learning libraries	1,3
	Experience of collecting, processing, analysing and interpreting quantitative research data.	1,3
	Experience of contributing to the design, delivery and evaluation of research studies, preferably involving behavioural or health interventions in human populations	1,3
	Experience of working collaboratively as part of a multidisciplinary research team	1,3
	Experience of disseminating research findings through academic publications, conference presentations or other appropriate outputs	1,3
Skills and abilities	Ability to apply appropriate research methodologies and analytical techniques to address research questions	1,3
	Ability to develop, implement and evaluate machine learning and/or statistical models using appropriate programming tools	1,3
	Excellent written and verbal communication skills, with the ability to communicate technical research findings to academic and non-technical audiences	1,3
	Ability to work independently, manage competing priorities and meet research deadlines	1,3
	Ability to work effectively as part of a team and develop positive collaborative relationships with colleagues and external partners	1,3
Qualifications	PhD (or nearing completion) in digital health, health technology, computer science, data science, behavioural science, health sciences or a related discipline	1
Other	Demonstrate an ability to behave in a way that adheres to equitable and inclusive working practices, while respecting diversity of thought and supporting freedom of speech and expression.	1,3

Desirable Criteria: These are skills, experience and competencies that are additional extras that may be used to narrow the pool down if we receive a high volume of applications all meeting the essential criteria.

Area	Criteria	Stage
Experience	Experience of developing or evaluating personalised digital health interventions, including JITAIs or other adaptive interventions	1,3
	Experience of applying machine learning, reinforcement learning or related computational approaches to digital health, behavioural science or other health-related problems. Experience of personalised/adaptive interventions, JITAIs, MRTs or wearable/smartphone data is desirable.	1,3
	Experience of working with wearable, smartphone or other digital health data	1,3
	Experience of working with real-world longitudinal, intensive longitudinal or time-series data	1,3
	Experience of co-designing or developing digital health interventions with patients, healthcare professionals or other stakeholders	1,3
Skills and abilities	Knowledge or experience of reinforcement learning and/or other machine learning approaches for developing personalised or adaptive digital health interventions.	1,3
	Knowledge of statistical and/or machine learning approaches for personalisation and prediction using longitudinal data	1,3
	Ability to communicate complex machine learning and digital health concepts to multidisciplinary audiences	1,3

Conditions of Service

The appointment will be subject to the [University's Terms and Conditions of Employment](#) relevant to the job grade.

Shared University Responsibilities

As a member of the Loughborough community, you are expected to:

- Take reasonable care of yourself, others and the environment, and to prevent harm by your acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Sustainability Policies & Procedures.
- Support and contribute to the University's commitment to Equity, Diversity, and Inclusion (EDI), while carrying out all duties in a way that respects these principles and upholds the right to free expression. Further information about EDI at Loughborough and our strategic aims is available on our website

Our Purpose, Vision, and Values

Our purpose, Vision and Values underpin all that we do and shape how we work together at Loughborough.

We're proud to promote our values: **Adventurous**, **Collaborative**, **Creative**, **Authentic** and **Responsible**. Our people bring these values to life every day, and they are central to the positive and supportive culture that makes Loughborough unique.

If you join us, you'll be encouraged to bring these values to life in your own work and contribute to the positive, supportive culture that makes Loughborough unique.

Read more about our [vision and values](#).

Our Accreditations



We strive to create a culture that supports equity 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 career.



We are proud to be a [Race Equality Charter Member](#). The Charter aims to improve the representation, progression and success of all minority ethnic staff and students within higher education and address issues of racism within higher education institutions (HEIs).



We are proud to be a Disability Confident Employer and have adopted a proactive approach to employing disabled people and to creating a more diverse workforce. We ensure that our recruitment processes are inclusive and accessible. We guarantee to offer an interview to all applicants who have declared a disability, provided that the essential criteria for the role are met. We proactively anticipate and provide reasonable adjustments and support existing employees who acquire a disability or long-term condition to thrive in the workplace.



We are a real living wage employer, and our Living Wage Employer Mark shows our commitment to paying our staff according to the cost of living.



We are proud supporters of the [City of Sanctuary movement](#) and delighted to be recognised as a University of Sanctuary. This national network brings together, university staff, lecturers, academics, and students, who together work to make Higher Education institutions places of safety, solidarity and empowerment for people seeking sanctuary.



We are committed to addressing gender inequalities in science and to improving career progression for female academics. The School of Sport, Exercise and Health Sciences holds a [Silver Athena SWAN award](#) which recognises the importance of support for women at all stages of their career.

As part of the University's ongoing commitment to redeployment, please note that this vacancy may be withdrawn at any stage of the recruitment process if a suitable redeployee is identified.