Job Description

Research Associate

Salary: Grade 7
Contract: Full time, Fixed term for 24 months
School/Department: School of Natural Sciences
Location: Canterbury Campus
Responsible to: Prof. John Dickinson

Job purpose

We are seeking a motivated Research Associate to join our exciting EPSRC funded project AIRTIME, at the University of Kent. The AIRTIME project aims to transform everyday smartphones into low-cost, non-invasive intelligent respiratory screening tools by using built-in sensors (e.g. microphones, accelerometers) combined with lightweight, explainable AI models. This mobile-first approach enables early detection of abnormal breathing patterns in real time, without requiring internet access or clinical equipment.

In this role you will work within our interdisciplinary team of physiologists, medical practitioners, engineers and computer scientists. You will lead our community-based trials that focus on collection and analysis of breathing patterns in healthy and respiratory patients. This will involve using smartphone-based respiratory data acquisition and preprocessing, and using the 3D motion caption standard method of measuring breathing patterns (Optoelectronic Plethysmography). Your expertise will ensure data quality, and protocol refinement.

Key accountabilities and Duties

- Contribute to the design and execution of the AIRTIME project, ensuring alignment with the grants aims and objectives.
- Lead participant recruitment and data capture in the biomechanics laboratory.
- Organise and store data appropriately. Analyse data and write up results and report regularly to the research group, partners and other stakeholders.
- Publish research findings in high quality peer reviewed journals and support in presenting results at conferences to share insights with the academic community.
- Carefully plan the research activity making sure the milestones of the project are achieved within the expected timeframe.
- Communicate research findings and complex information effectively to diverse audiences, both in writing and orally.
- Build and maintain professional relationships with colleagues, students, and external partners to foster collaboration and networking.
- Manage research-related administrative tasks, ensuring compliance with ethical and regulatory standards.
- Participate in team meetings and contribute to discussions on research direction and strategy.
- Engage in continuous professional development to enhance research skills and knowledge in relevant areas, integrating new information into research activities where feasible.

Internal & external relationships

Internal: Wider research team, academic supervisor/principal investigator, support staff, students

External: External researchers/collaborators, funding bodies, project participants, external institutions/organisations where necessary

Health, safety & wellbeing considerations

This job involves undertaking duties which include the following health, safety and wellbeing considerations:

- Regular use of Screen Display Equipment
- Repetitive limb movements
- Prolonged laboratory testing in the biomechanics laboratory
- Pressure to meet important deadlines such as might be inherent in high profile projects
- There may be a requirement to work evenings and weekends
- Ability to occasionally travel in a timely and efficient manner between Kent, Manchester, Oxford and London

Person specification

The person specification details the necessary skills, qualifications, experience or other attributes needed to carry out the job. Applications will be measured against the criteria published below.

Selection panels will be looking for clear evidence and examples in an application, or cover letter (where applicable), which back-up any assertions made in relation to each criterion.

Essential Criteria:

- A relevant postgraduate degree (Master's or PhD) or equivalent in a related field of study (e.g., biomechanics, computing, engineering) (A)
- Proven experience in conducting research projects, including data collection and analysis (A,I,T)
- Specialist expertise in or theoretical knowledge of 3D motion capture to capture human movement, and/or mobile phone housed sensors (e.g. accelerometers, microphone) (A,I,T)
- Demonstrated ability to write and publish research findings in peer-reviewed journals (A,I)
- Experience working collaboratively in a research or academic setting, contributing to joint projects and initiatives (A,I,T)
- Familiarity with relevant research methodologies and tools specific to the field (A,I,T)
- Strong verbal and written communication skills, with the ability to convey complex information clearly to diverse audiences (I,T)
- Excellent organizational skills with the ability to manage multiple tasks and meet deadlines (I,T)
- Commitment to continually update knowledge and understanding in field or specialism (I)
- A firm commitment to fostering a working and learning environment that is respectful, inclusive and values diversity, including diversity of thought, and which enables staff and students from a wide range of backgrounds to thrive (I)

Desirable Criteria:

- Familiarity with more specialized or advanced research methods (A,I)

Assessment stage: A - Application; I - Interview; T - Test/presentation at interview stage