RESEARCH FELLOW (MULTIMODAL INTERFACES AND BEHAVIOUR ANALYTICS)

DEPARTMENT/UNIT	HCI and Creative Technologies
FACULTY/DIVISION	Faculty of Information Technology
CLASSIFICATION	Level B
WORK LOCATION	Caulfield campus

ORGANISATIONAL CONTEXT

The **Faculty of Information Technology** conducts a wide range of multidisciplinary research in Human-Computer Interaction and Creative Technologies, Artificial Intelligence and Dialogue Technologies, Data Science and Machine Learning, Cybersecurity, and Organisational and Social Informatics. Monash University is a multi-campus and multi-national university, with locations in Melbourne, Asia and around the world. Our research priorities in FIT are technically ambitious, expanding into new areas, and embedded in everyday life; see www.infotech.monash.edu.au/.

The **Human-Centred AI** group designs, builds, and evaluates state-of-the-art interface technologies. Our multidisciplinary interests span computer science and engineering, cognitive and learning sciences, communications, medicine and health, media design, and other topics. Our work is based on empirical science, statistics, deep learning and data analytics, and diverse HCI methods. The HCI group has partnerships with CSIRO-Data61, and an expanding collection of industry partners. The HCI area director is Professor Sharon Oviatt, an ACM Fellow and international pioneer in human-centred, mobile, and multimodal interfaces.

POSITION PURPOSE

The Faculty of Information Technology at Monash University is establishing a new group in Human Computer Interaction (HCI) and Human-Centred AI. This position involves research on predicting user cognition and/or health status based on analysis of different modalities (such as speech, writing, physical activity patterns, gaze, bio-sensors, etc.) during naturally occurring activities. These analyses will involve exploring predictive patterns at the signal, activity pattern, lexical, and/or transactional levels. As a Level B research academic, the incumbent is expected to carry out independent and/or team research within this field and to advance their career development.

Reporting Line: The position reports to Director of the Human-Centred AI group

Supervisory Responsibilities: Not applicable

Financial Delegation: Not applicable

Budget Responsibilities: Not applicable

KEY RESPONSIBILITIES

Specific duties required of a Level B research-only academic may include:

1. Conduct research as a member of a team and independently, and successfully publish conference and journal papers on research in top journals
2. Engage in professional research activities such as presenting at conferences, to funders, and at other professional meetings within the candidate's field of expertise
3. Contribute to occasional teaching, team teaching, and guest lecturing within the relevant field of research to build professional skills
4. Co-supervise or supervise major honours or postgraduate research projects within the candidate's area of research
5. Mentor or guide more junior members of the HCI research group
6. Contribute to preparing research proposal submissions to external funding bodies
7. Contribute to research and infrastructure functions, such as laboratory development and leading the group's regular lab meetings
8. Attend meetings involving research or organizational responsibilities in the Faculty of Information Technology or University
9. Engage in occasional professional service work, such as conference committees and organization, to build professional skills and establish a social network

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
    - PhD in computer science, engineering, information sciences, cognitive or linguistic sciences, or a related field and proven research experience; or
    - an equivalent combination of qualifications and research experience

Knowledge and Skills

2. Training in HCI, multimodal interfaces, data science, machine learning and analytics, multimodal signal analysis and interpretation, modelling of human behaviour & communication
3. Experience collecting and analysing speech, images, handwriting, gaze, bio-signals and/or other human sensor data
4. Experience applying machine learning/deep learning, empirical/statistical, or other analysis methods
5. Experience conducting signal and/or linguistic analyses of one or more modality data sources
6. Demonstrated research manuscript and research proposal preparation skills, including a solid track record of refereed research publications in top venues
7. Ability to supervise and collaborate with major honours or postgraduate students within the candidate's research area, and to successfully mentor research staff
8. Excellent interpersonal skills, teamwork skills, and oral and written communication skills, with the ability to work both independently and as part of an multidisciplinary team

9. Strong leadership, initiative, and organisational skills, with demonstrated ability to achieve goals

OTHER JOB RELATED INFORMATION

- Travel to other campuses of the University may be required
- There may be a requirement to work additional hours from time to time
- There may be peak periods of work during which taking of leave may be restricted

LEGAL COMPLIANCE

Ensure you are aware of and adhere to legislation and University policy relevant to the duties undertaken, including: Equal Employment Opportunity, supporting equity and fairness; Occupational Health and Safety, supporting a safe workplace; Conflict of Interest (including Conflict of Interest in Research); Paid Outside Work; Privacy; Research Conduct; and Staff/Student Relationships.