



POSITION DESCRIPTION

School of Computing and Information Systems
Faculty of Engineering and Information Technology

Digital Health Data Scientist

POSITION NO	0054454
CLASSIFICATION	Academic Specialist Level A-B (appointment level depending on qualifications and research experience)
SALARY	Level A: \$80,258 - \$108,906 p.a. (pro rata for part-time) Level B: \$114,645 - \$136,136 p.a. (pro rata for part-time)
SUPERANNUATION	Employer contribution of 17%
WORKING HOURS	Full-time (1.0 FTE)
BASIS OF EMPLOYMENT	Fixed term for 12 months
OTHER BENEFITS	https://about.unimelb.edu.au/careers/staff-benefits
HOW TO APPLY	Online applications are preferred. Go to http://about.unimelb.edu.au/careers , select the relevant option ('Current Opportunities' or 'Jobs available to current staff'), then find the position by title or number.
CONTACT FOR ENQUIRIES ONLY	Dr Kit Huckvale Email kit.huckvale@unimelb.edu.au <i>Please do not send your application to this contact</i>

For information about working for the University of Melbourne, visit our website: about.unimelb.edu.au/careers

Acknowledgement of Country

The University of Melbourne acknowledges the Traditional Owners of country throughout Australia. The University recognises the unique place held by Aboriginal and Torres Strait Islander peoples as the original custodians of country and their continued connection to the land, waterways, songlines and culture. The University respects all Aboriginal and Torres Strait Islander People and warmly embrace those students, staff, Elders and collaborators who identify as First Nations.

Commitment to Diversity and Inclusion

The Faculty of Engineering and Information Technology (FEIT) is committed to creating a diverse and inclusive environment that welcomes and values all people. We recognise that diversity is essential in contributing to the success of FEIT. Women, Aboriginal and Torres Strait Islanders, the LGBTIQ+ community, people living with disability and those from a culturally and linguistically diverse background, are strongly encouraged to apply.

Position Summary

1. Key Responsibilities

The Centre for Digital Transformation of Health, together with the Melbourne Centre for Data Science, at the University of Melbourne seeks a talented early-career researcher who can contribute to the data analytics components of two grant-funded projects that seek to improve the lives of brain cancer patients and young stroke survivors through the development of digital information, support and/or navigation platforms.

Reporting to Prof. Michael Kirley, this role will sit in the Melbourne Centre for Data Science in the School of Computing and Information Systems and have responsibility for research conducted in the Digital Health Validitron team led by Dr Kit Huckvale in the Centre for Digital Transformation of Health. Researchers in the Centre for Digital Transformation of Health are responsible for comprehensively evaluating the usability, efficacy and effectiveness of two digital health platforms. The successful applicant will be responsible for one component of each of the evaluation plans; evaluating how each of the digital health platforms are used by patients by extracting, analysing and interpreting usage analytics from the web-based platforms. This is an exceptional opportunity to provide your data science expertise to two translational digital health projects with real-world healthcare outcomes.

The ideal candidate will be a self-directed data scientist with experience of working with real-world health data. The ability to apply rigorous data science approaches to real world data in novel ways, that lead to insights about how patients use the two platforms, will be essential for success in this role, as is the ability to communicate with non-technical audiences, and share knowledge, insights and results with researchers from many disciplines and with consumers in layperson-friendly language. A strong desire to grow a career as a digital health data scientist will be favourably viewed, and there will be potential to extend this role if successful, subject to ongoing funding.

1.1 MANAGEMENT OF DATA PREPARATION FOR ANALYSIS

- Establish and maintain a staging pipeline for usage/analytics data extracted from each web-based platform.
- Design and implement data verification and cleaning procedures for usage/analytics data.
- Support data-focussed User Acceptance Testing and other testing activities.
- Prepare datasets for analysis including linkage with Patient-Reported Outcome Measures (PROMs) and other questionnaire data.
- Support team awareness and understanding of the nature and limitations of collected data through e.g., descriptive analyses, reports and presentations.
- Apply appropriate statistical methods (e.g., unsupervised learning) to identify conceptual and behavioural categories in collected data, such as distinctive usage or platform engagement types.
- Understand and comply with university policy, research and clinical data governance rules, and the laws around data handling and storage.
- Other ad-hoc duties, as assigned, to assist with implementation of the online platforms.
- Ensure all work is documented to a level that another researcher could reproduce or easily update the work.

- Ensure learnings from doing the work are documented so that they can be applied to future similar projects.

1.2 RESEARCH AND RESEARCH TRAINING

- Generate research outputs relating to the analytical/ exploratory methods used, including drafting of relevant manuscript sections and slides.
- Analyse primary outcome data (and, specifically, the appropriate application of behavioural labels to subgroup analyses) and interpret results in collaboration with the research team for each project.
- Contribute to the write up of methods and results in study publications and other outputs.

1.3 ENGAGEMENT

- Work collaboratively with the Digital Health Validitron Team in the Centre for Digital Transformation of Health, including attendance of and contribution to Digital Health Validitron team meetings and relevant research team meetings.
- Attend meetings with stakeholders; understand and ensure stakeholder perspectives are implemented in the data analysis plan.
- Engage with the research teams and methodological experts in the Melbourne Centre for Data Science to bring cutting-edge data science methods to two interdisciplinary digital health research projects.

1.4 LEADERSHIP AND SERVICE

- Through this joint role, foster ongoing productive collaborations between the Centre for Digital Transformation of Health and the Melbourne Centre for Data Science.

2. Selection Criteria

2.1 ESSENTIAL FOR LEVEL A AND B

- A post-graduate qualification in data science or related discipline (a PhD for appointment at Level A.6 and above).
- Demonstrated experience in use of real-world data.
- A demonstrated track record of applying data science methods to complex real world problems to gain novel and useful insights.
- Demonstrated skills in rigorous data management and wrangling.
- Ability to foster relationships in an interdisciplinary research setting, resulting in successful collaborative research outcomes.
- Experience in handling health data and knowledge of university policy, research and clinical data governance rules and the laws around sensitive data.
- Demonstrated ability to produce high quality research outputs and outcomes.
- Demonstrated high level organisational, communication and time-management skills and demonstrated ability to manage and respond to changing priorities and deadlines.
- Sound analytical, problem-solving, and troubleshooting skills.
- Highly developed interpersonal and written/oral communication skills including the ability to convey technically accurate information to people from a wide variety of backgrounds.

2.2 DESIRABLE

- Experience working with clinical stakeholders and health consumers, and communicating results to these audiences.
- Prior experience in building data extraction and cleaning pipelines from web-based platforms.

2.3 ADDITIONAL CRITERIA FOR APPOINTMENT AT LEVEL B

- At least 3 years research experience at a postdoctoral level
- Demonstrated ability to perform independent research and a commitment to interdisciplinary research
- Demonstrated ability to work with limited supervision in a self-directed manner and as a member of a research team, and to interact in a courteous and effective manner with academic, administrative and support staff.

3. *Equal Opportunity, Diversity and Inclusion*

The University is an equal opportunity employer and is committed to providing a workplace free from all forms of unlawful discrimination, harassment, bullying, vilification and victimisation. The University makes decisions on employment, promotion, and reward on the basis of merit.

The University is committed to all aspects of equal opportunity, diversity and inclusion in the workplace and to providing all staff, students, contractors, honorary appointees, volunteers and visitors with a safe, respectful and rewarding environment free from all forms of unlawful discrimination, harassment, vilification and victimisation. This commitment is set out in the Advancing Melbourne strategy that addresses diversity and inclusion, equal employment opportunity, discrimination, sexual harassment, bullying and appropriate workplace behaviour. All staff are required to comply with all University policies.

The University values diversity because we recognise that the differences in our people's age, race, ethnicity, culture, gender, nationality, sexual orientation, physical ability and background bring richness to our work environment. Consequently, the People Strategy sets out the strategic aim to drive diversity and inclusion across the University to create an environment where the compounding benefits of a diverse workforce are recognised as vital in our continuous desire to strive for excellence and reach the targets of Advancing Melbourne.

4. *Occupational Health and Safety (OHS)*

All staff are required to take reasonable care for their own health and safety and that of other personnel who may be affected by their conduct.

OHS responsibilities applicable to positions are published at:

<https://safety.unimelb.edu.au/people/community/responsibilities-of-personnel>

These include general staff responsibilities and those additional responsibilities that apply for Managers and Supervisors and other Personnel.

5. *Other Information*

5.1 THE SCHOOL OF COMPUTING & INFORMATION SYSTEMS

The School of Computing & Information Systems (CIS) undertakes research and teaching across a range of information technology disciplines including Software Engineering, Information Systems, and Computer Science. CIS is the most highly ranked School of Computing and Information Systems in Australia according to all major rankings (THE, QS, ARWU). It offers a comprehensive range of IT and IS courses at all levels, including offerings in science, engineering, and business, and is at the forefront of computing research in Australia and internationally with close links to major computing research initiatives, including Melbourne Bioinformatics, CSL, The Cremorne Digital Hub and CSIRO's DATA61.

The School's aim is to attract and retain outstanding staff available in order to maintain its lead in research and teaching. We have an existing highly successful research team in the area of the appointment, a large number of PhD students, and a substantial cohort of graduate students in our coursework Masters programs.

To find out more about CIS, visit: <http://www.cis.unimelb.edu.au/>

5.2 FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGY

The Faculty of Engineering and Information Technology (FEIT) has been the leading Australian provider of engineering and IT education and research for over 150 years. We are a multidisciplinary School organised into three key areas; Computing and Information Systems (CIS), Chemical and Biomedical Engineering (CBE) and Electrical, Mechanical and Infrastructure Engineering (EMI). FEIT continues to attract top staff and students with a global reputation and has a commitment to knowledge for the betterment of society.

FEIT has never been better positioned as a global leader, anchored in the dynamic Asia Pacific region, creating and curating knowledge to address some of the world's biggest challenges. Through our students and our relationships with communities, we can not only respond to society's needs but anticipate and create engineering and IT solutions for the future.

<https://eng.unimelb.edu.au/>

<https://eng.unimelb.edu.au/about/join-feit>

Our ten-year strategy, FEIT 2025, is our School's commitment to bring to life the University-wide strategy Advancing Melbourne and reinforce the University of Melbourne's position as one of the best in the world.

To achieve our ambitions, we will continue to build new infrastructure to enable our teaching, research and engagement; we continue to recruit outstanding people from around the world; and we continue to attract high-quality students from across the globe who are at the heart of our enterprise.

<https://eng.unimelb.edu.au/about/feit-2025>

5.3 MELBOURNE CENTRE FOR DATA SCIENCE

Melbourne Centre for Data Science is a cross-disciplinary research centre that sits in both the School of Mathematics and Statistics, in Faculty of Science, and the School of Computing and Information Systems, in Faculty of Engineering and Information Technology.

The Centre focuses on the interdisciplinary melding of mathematical methods and computational analysis as a base for the ideal mix of deep core discipline research. Beyond, and circular to, core discipline research, the Centre leans on the nature of data science and encourages the engagement of multi-disciplinary subject matter experts for collaborative research.

Looking to a grand vision and mission, the Centre enjoys interdisciplinary collaboration across the University of Melbourne and externally, leads in demand training and workshops, looks to likeminded Research Centres for circular advancement and expertise, and holds strong on delivering high calibre data science for the benefit of society now and into the future.

<https://science.unimelb.edu.au/mcnds>

5.4 CENTRE FOR DIGITAL TRANSFORMATION OF HEALTH

The Centre for Digital Transformation of Health is a cross-disciplinary centre that sits in the Faculty of Medicine, Dentistry and Health Sciences, and the School of Computing and Information Systems.

With a vision of connected healthcare, the Centre aims to address a critical gap in the translation of digital health research, which is clearly needed if the healthcare system is to benefit from research-led advances in digital health. The Centre aims to significantly grow the field of digital health research at the University of Melbourne through creating the right environment for the type of inter-disciplinary, collaborative research that correlates with research excellence and impact to flourish. Through bringing together researchers, educators, healthcare and digital health professionals, patients and the public, the focus on translation of digital health innovations into clinical practice will enable a future where the healthcare system is transformed through digital health innovation

The Centre's strategy is underpinned by connecting the strengths in health and medical research in the Faculty of Medicine, Dentistry and Health Sciences, to the strengths in informatics, computing and data science in the School of Computing and Information Systems and across the University to create a collaborative, inter-disciplinary ecosystem that supports translation to real-world research impact in the healthcare system. Its three strategic pillars are focussed on better use of health data, integrating digital health innovations into the healthcare system and upskilling the healthcare workforce.

<https://mdhs.unimelb.edu.au/digitalhealth>

5.5 THE UNIVERSITY OF MELBOURNE

Established in 1853, the University of Melbourne is a leading international university with a tradition of excellence in teaching and research. The main campus in Parkville is recognised as the hub of Australia's premier knowledge precinct comprising eight hospitals, many leading research institutes and a wide-range of knowledge-based industries. With outstanding performance in international rankings, the University is at the forefront of higher education in the Asia-Pacific region and the world.

The University employs people of outstanding calibre and offers a unique environment where staff are valued and rewarded.

Further information about working at The University of Melbourne is available at <http://about.unimelb.edu.au/careers>

5.6 ADVANCING MELBOURNE

The University's strategic direction is grounded in its purpose. While its expression may change, our purpose is enduring: to benefit society through the transformative impact of education and research. Together, the vision and purpose inform the focus and scale of our aspirations for the coming decade.

Advancing Melbourne reflects the University's commitment to its people, its place, and its partners. Our aspiration for 2030 is to be known as a world-leading and globally connected Australian university, with our students at the heart of everything we do.

- We will offer students a distinctive and outstanding education and experience, preparing them for success as leaders, change agents and global citizens.
- We will be recognised locally and globally for our leadership on matters of national and global importance, through outstanding research and scholarship and a commitment to collaboration.
- We will be empowered by our sense of place and connections with communities. We will take opportunities to advance both the University and the City of Melbourne in close collaboration and synergy.
- We will deliver this through building a brilliant, diverse and vibrant University community, with strong connections to those we serve.

The means for achieving these goals include the development of the University of Melbourne's academic and professional staff and the capabilities needed to support a modern, world-class university. Those means require a commitment to ongoing financial sustainability and an ambitious infrastructure program which will reshape the campus and our contribution to the communities we engage with. This strategy, and the priorities proposed, is centred around five intersecting themes; place, community, education, discovery and global.

5.7 GOVERNANCE

The Vice Chancellor is the Chief Executive Officer of the University and responsible to Council for the good management of the University.

Comprehensive information about the University of Melbourne and its governance structure is available at <https://about.unimelb.edu.au/strategy/governance>