School of Computing and Information Systems
Melbourne School of Engineering

Research Fellow in Medical Data Mining

In line with the special measure H103/2014 provided for under section 12 of the Equal Opportunity Act 2010 (VIC), the Melbourne School of Engineering strongly encourages applications from suitably qualified female candidates.

POSITION NO	0048228
CLASSIFICATION	Research Fellow (Level A) / Research Fellow (Level B)
SALARY	$89,251- $95,800 p.a. (Level A.6-A.8) / $100,849 – $119,753 (Level B)
SUPERANNUATION	Employer contribution of 9.5%
WORKING HOURS	Full-Time (1 FTE)
BASIS OF EMPLOYMENT	Fixed Term until 2 years "CONTINUING/FIXED-TERM" FOR/TO XXXX MONTHS / YEARS / DATE
OTHER BENEFITS	http://about.unimelb.edu.au/careers/working/benefits
CURRENT OCCUPANT	Vacant
HOW TO APPLY	Online applications are preferred. Go to http://about.unimelb.edu.au/careers, select the relevant option ('Current Staff' or 'Prospective Staff'), then find the position by title or number.
CONTACT FOR ENQUIRIES ONLY	Prof Uwe Aickelin Email: uwe.aickelin@unimelb.edu.au *Please do not send your application to this contact*

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

Position Summary

A position is available for two years for a Research Fellow to work on computational algorithms, machine learning driven analytics and advanced data mining approaches for medical and health data. The Research Fellow will work in collaboration with Professor Aickelin and other staff in the School of Computing and Information Systems who work on biomedical datamining projects, in particular in the analysis of electronic healthcare records.

Data has enormous potential to improve public health and lead to improved patient outcomes. Today, it is perhaps one of the greatest forces driving transformations in the way we predict, prevent, detect and manage disease. As Australia's healthcare system moves towards the systematic integration of digital health records, it is particularly important that we invest in our capabilities in order to maximise the potential of data to improve healthcare. The School of Computing and Information Systems is working closely with the Faculty of Medicine, Dentistry and Health Sciences to further this vision and we are now looking for a Research Fellow in Medical Data Mining to strengthen our team.

You will conduct independent research, leading to the preparation and publication of research outcomes in conferences and journals. You will be located in the School of Computing and Information Systems in the Melbourne School of Engineering and will be expected to be an active member of the School, collaborating with other researchers. You may be required to undertake small amounts of teaching and research supervision directly related to your area of research, as required.

The Melbourne School of Engineering is strongly committed to supporting diversity and flexibility in the workplace. Applications for part-time or other flexible working arrangements will be welcomed and will be fully considered subject to meeting the inherent requirements of the position.

The University plan seeks to increase the diversity of the workforce and the representation of women in areas they have been traditionally under-represented. Consistent with this the School is seeking to increase the representation of women in the academic workforce across engineering disciplines. Under a Special Measure, under Section 12 (1) of the Equal Opportunity Act 2010 (Vic) the School is seeking to lift the representation of women from 20% in 2014 to at least 25% over the next 5 years, and strongly encourages applications from suitably qualified female candidates.

1. Selection Criteria

1.1 ESSENTIAL

- PhD in Computer Science or closely related fields;
- A track record of quality research as evidenced by research publications in leading conferences and journals commensurate with opportunity;
- Demonstrated ability to perform independent research and a commitment to interdisciplinary research;
- Demonstrated capacity to communicate research concepts to technical and non-technical audiences;
- Excellent ability in analysing data, problem solving and maintaining accurate research records;

- Excellent communication and interpersonal skills, including an ability to interact with internal and external stakeholders (academic, administrative and support staff) in a courteous and effective manner;

- Demonstrated project management skills, including high level organisational and time management skills, ability to manage competing priorities and excellent record keeping skill;

- Excellent ability to work co-operatively in a multi-disciplinary team environment and liaise with associates from both industry and academia;

- Demonstrated experience in using initiative, working with minimal supervision and ability to prioritise tasks to achieve project objectives within timelines;

- Excellent written and verbal communication skills, demonstrated by presentation of research results at conferences, internal forums and through manuscript submissions.

1.2 DESIRABLE

- Experience in conducting research in medical data analysis using machine learning;

- Strong coding Skills (e.g. Python), experimental skills including design and statistics (e.g. R),

- Ability to structure, engage and present information clearly to various audiences.

In addition to the above, expectations from a Level B academic are:

- Well-developed and an outstanding background in data mining and machine learning;

- Superior analytical skills complemented with medical knowledge;

- Experience in supervision of graduate students and/or research assistants;

- Experience in the successful completion of ethics applications and submission of grant applications;

- Ability to structure, engage and present information clearly to various audiences;

- Experience in postgraduate student supervision;

- Experience in a leadership role within a research team.

2. Key Responsibilities

2.1 RESEARCH – ADVANCEMENT OF DISCIPLINE

- Independently plan and carry out research on the nominated research project and work towards completion of the aims of the project;

- Develop effective timelines and milestones based on goals of the research programme;

- Perform data and microstructure analysis and be responsible for qualitative and statistical analysis of research data and to communicate this information to the Chief Investigators and collaborators;

- Regularly write technical reports on the outputs of the experiments conducted and maintain accurate and detailed records of all research conducted;

- Participate in preparation of manuscripts for publication in peer-reviewed journals;

- Liaise effectively with collaborators with a variety of internal and external stakeholders;

- Assist other researchers in carrying out research in order to work as a team and further the department's research output;
- Contribute to the development of the School's research program;
- Work towards building an independent research project.

2.2 TEACHING AND LEARNING

- Contribute to teaching, training, scientific mentoring and supervision of students;
- Supervise junior research staff in the appointee's area of expertise;
- Conduct lectures, tutorials, mark and undertake laboratory duties as required by the Department.

2.3 ENGAGEMENT

- Attend and contribute actively to lab meetings;
- Present empirical results at local, national and international forums;
- Attend and actively participate in departmental seminars, meetings and/or committee memberships.

2.4 SERVICE AND LEADERSHIP

- Assist with administrative duties and general laboratory duties including maintenance of the laboratory and equipment and ordering of supplies;
- Assist in the preparation and submission of competitive grant applications relating to the appointee's research program;
- Perform other academic tasks as requested by the supervisor or the Head of the School;
- Undertake Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in Section 4.

In addition to the above, expectations from a Level B academic are:

- Develop independent research and apply for grants;
- Perform administrative functions primarily connected with the research project, including generating written summaries of discussions, developing detailed research plans with the project investigators and writing these into a project plan, and contributing to ethics submissions;
- Lead and contribute in the preparation and submission of competitive grant applications relating to the appointee's research program;
- Plan experimental programs and supervise the progress of research program of Research Fellows, Students and Research Assistants;
- Effective liaison with external networks to foster collaborative partnerships;
- Active participation in some outreach activities relating to research and scholarship;
- Effective liaison with external networks to foster collaborative partnerships;

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 University's People Strategy 2015-2020 and policies that address 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 Growing Esteem.

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:

http://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

The University of Melbourne

Established in 1853, the University of Melbourne is a public-spirited institution that makes distinctive contributions to society in research, learning and teaching and engagement. It's consistently ranked among the leading universities in the world, with international rankings of world universities placing it as number 1 in Australia and number 32 in the world (Times Higher Education World University Rankings 2017-2018).

https://about.unimelb.edu.au/strategy/growing-esteem

Melbourne School of Engineering

Melbourne School of Engineering (MSE) 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). MSE

continues to attract top staff and students with a global reputation and has a commitment to knowledge for the betterment of society.

Our ten-year strategy, MSE 2025, is our School's commitment to bring to life the University-wide strategy *Growing Esteem* and reinforce the University of Melbourne's position as one of the best in the world. Investment in new infrastructure, strengthening industry engagement and growing the size and diversity of our staff and student base to drive innovation and develop the transformative technologies of the future are all fundamental principles underpinning MSE 2025. http://www.eng.unimelb.edu.au/about/join-mse/why-join-mse

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. It offers a comprehensive range of IT 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, IBM Research, the Microsoft Research Centre for Social Natural User Interfaces (SNUI), and DATA61 (formerly NICTA).

The School's aim is to attract and retain outstanding staff available in order to maintain a leading 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/