Position Description

Position Title: Research Fellow
College/Division: ANU College of Engineering and Computer Science
Faculty/School/Centre: School of Computing
Classification: Level B
Position No: TBC
Responsible to: Professor Graham Williams

PURPOSE STATEMENT

The ANU College of Engineering and Computer Science (CECS) has embarked on a major initiative to reimagine the role of engineering and computing in the 21st century. As outlined in the CECS Strategic Intent the College has a unique set of national responsibilities and an obligation to have a degree of impact befitting Australia’s only national university.

To achieve such impact our College embodies principles and values to guide the pursuit of excellence in education; research, engagement and impact; and collegiality. These principles include collaborative teamwork, common strategic intent, nurturing peer and junior staff members, and acting with purpose and professionalism. These attributes are articulated in the CECS Academic Performance Standards, which also indicate that each individual may pursue a unique path on the basis of their impact—which may cover a range of outputs and impact indicators. Our community contribute to making our environment the very best possible venue for all staff, stakeholder and student bodies.

Key accountability Areas:

The ANU College of Engineering and Computer Science is an interdisciplinary venture, with the aim of housing the very best and brightest from around the world to find and solve problems—not just engineers or computer scientists, but also the brightest minds both from industry and other academic disciplines, with varied backgrounds and areas of expertise. We will reimagine the traditional engineering and computing disciplines. We believe the responsibility of engineering and computing in the 21st century is to bring together expertise on people, technological systems, and science to put technology at the service of creating a more sustainable, responsible and safe world.

The School of Computing is a new organisation, springing from foundations in the computing and information sciences at the ANU. It is a leading centre for research in artificial intelligence and machine learning, computer systems and software, and theoretical foundations of computing. It encompasses traditional computer science but also data science and computational science, addressing the critical need to design, drive and sustain a fundamental program of strategic activities that will launch the new school. This is an opportunity to establish an innovative and forward-looking intellectual agenda, built on a diverse, inclusive culture.

School of Computing will initially have defined four broad focus areas, or activity clusters: Intelligent Systems, Data Science/Analytics, Secure Software & Systems, and Computational Science. Each cluster will have an Academic Lead who is responsible for shaping the education, research and engagement activities in their cluster.

This structure will allow for the concentration of resources and activities to increase potential for meaningful impact. The Software Innovation Institute brings together an expert team of practitioners, researchers, engineers and students from a range of disciplinary and professional backgrounds to address data challenges at scale.

The purpose of these appointments is to support the activities of the School in the related areas of Data Science and Machine Learning. One appointment will have a focus on Accessible Artificial Intelligence and Machine Learning and the other on Privacy Through Extremely Distributed Machine Learning, both under the supervision of Professor Graham Williams. The Research Fellows are expected to work closely with Professor Williams,
collaborators and industry partners, to research and create new technology and to engineer solutions for high impact.

**Position Dimension & Relationships:**

The academic will be a member of the School of Computing and within the Data Science activity cluster and the Software Innovation Institute, accountable to the Activity Cluster Lead and to the School Director, and (as relevant) will be responsible for relationships with industry, government and other academic and professional staff across the University.

As an academic, the role involves engineering of software to demonstrate and solve important tasks, educational activities, outward-facing engagement and outreach, innovative and distinctive research, and commitment to organisational culture. The staff member is expected to contribute cooperatively to the overall intellectual life of the School, College and University.

**Role Statement:**

Specific duties required of a Level B Academic may include:

1. Undertake high impact collaborative and cross-disciplinary applied research and engineer activities that generates and makes accessible creative works and a body of unique intellectual knowledge as relevant to the Activity Cluster, School, and College.

2. Collaborate closely with the team to produce robust implementations of novel algorithms as part of an open source software project, and also with industry stakeholders to solve real-world data science and machine learning problems.

3. Take an active role in seeking and generating resources to support the development of deep and transformational expertise in fields relevant to the Activity Cluster, School and College. Achieve impact through engagement with a range of stakeholders and / or funding bodies and through the preparation of research proposals.

4. Provide support to the engagement and impact activities of the School, with the aim to engage and activate a stakeholder community in academia / industry / start-ups / government / broader community, including communicating or publishing original, innovative and multi-disciplinary results in international refereed journals, academic seminars, national and international conferences, or appropriate fora for the field, and collaborate with other researchers at an international level. Also, assisting in outreach activities including to prospective students, research institutes, industry, government, the media and the general public.

5. Contribute to the educational activities of the Activity Cluster and School. This includes, but is not limited to, the preparation and delivery of lectures, tutorials, short courses and workshops; the preparation and delivery of professional and executive education courses; the preparation of online material; marking and assessment; and consultations with students. This also includes, but is not limited to, supervision of research students and coursework students working on individual or group projects at undergraduate, honours, and graduate levels.

6. Lead, supervise and develop less senior academic and research support staff in the School.

7. Maintain high academic standards and collegiality in all education, research, impact, engagement and administration endeavours of the School, College, and University.

8. Contribute broadly to all aspects of the operation of the School, College and University.

9. Take responsibility for workplace health and safety and not wilfully place at risk the health and safety of another person in the workplace.

10. Other duties as required consistent with the classification level of the position.
SELECTION CRITERIA

The breadth and depth of this role are illustrated in the following selection criteria. While candidates should ideally meet all selection criteria, the School of Computing will consider all applications that demonstrate alignment with its mission.

1. A PhD or equivalent in Data Science, Machine Learning or Artificial Intelligence, or a related area as relevant to the School, with a competitive track record of either impact or research as evidenced by appropriate outputs and measures of esteem in industry, government or academic environments.

2. Strong experience in Software Engineering, programming in languages such as R and/or Python, and experience with and motivation for publishing open source software.

3. An ability to contribute to impact and engagement activities involving government, industry, the wider research community and the general public, including involvement in collaborations and partnerships with a range of internal and external stakeholders.

4. A demonstrated alignment with the School’s culture and work environment including a commitment to enhancing diversity and inclusion, characterised by an orientation to collaborative research; team-based projects; interdisciplinary activities and interests; strategic decision making; commitment to the success of peers and the team; and an ability to contribute to the strategic priorities and activities of the School and College.

5. Excellent communication skills with the ability to inspire a wide range of audiences, including in crossdisciplinary areas and to foster respectful and productive working relationships with staff, students and colleagues at all levels. Skills in other forms of communication (such as visual communication, podcasting, video, etc.) or a willingness to innovate in these areas will be well regarded.

6. Evidence of effective teaching, training, facilitation, mentoring or other relevant knowledge transmission activities and of the ability to contribute significantly to delivery of the educational agenda in the Activity Cluster and School.

7. Ability to mentor and develop colleagues to achieve goals in alignment with the College’s strategic priorities, particularly in relation to building a diverse and inclusive community life.

8. A demonstrated high-level understanding of equal opportunity principles and a commitment to the application of these policies in a University context.

Consistent with their relative opportunity to do so, a Level B Academic will have a relevant doctoral qualification or equivalent accreditation and standing together with subsequent research (or R&D) experience. This may not apply to candidates coming from different fields such as industry or government. Once in the role, there will be an expectation of academic excellence, making an outstanding contribution to research and, in this particular position, the ability to collaborate with internal and external stakeholders outside of your domain. A position at this level will require a demonstrated record of research output in academia, industry or government.

The successful candidate will be required to undergo a background check during the recruitment process. An offer of employment is conditional on satisfactory results.

References:
ANU Minimum Standards for Academic Levels
CECS Strategic Intent
CECS Academic Performance Standards