<table>
<thead>
<tr>
<th>College:</th>
<th>College of Engineering and Computer Science (CECS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty/School/Centre:</td>
<td>School of Computing</td>
</tr>
<tr>
<td>Department</td>
<td>Computing Foundations Cluster</td>
</tr>
<tr>
<td>Position Title:</td>
<td>Research Fellow</td>
</tr>
<tr>
<td>Classification:</td>
<td>Academic Level B</td>
</tr>
<tr>
<td>Responsible To:</td>
<td>A/Prof. Peter Höfner or A/Prof Michael Norrish or A/Prof Alwen Tiu or Prof Tony Hosking</td>
</tr>
<tr>
<td>Number of positions that report to this role:</td>
<td>0</td>
</tr>
<tr>
<td>Delegations Assigned:</td>
<td>D8</td>
</tr>
</tbody>
</table>

**PURPOSE STATEMENT**

The Australian National University (ANU) College of Engineering and Computer Science (CECS) is a vibrant and diverse community of more than three thousand students, staff, and visitors. Our College is comprised of three schools: the School of Computing, School of Cybernetics, and School of Engineering, supported by the Professional Services Group. We aim to bring together expertise in social, technical, ecological and scientific systems to build a new approach. In the College, we draw on our disciplinary foundations to find and solve problems of global importance. Our people build on our traditional world-class expertise and take it in creative, unconventional directions. Through the Reimagine investment, we have the privilege and the responsibility to build a new legacy for the University, the country, and even the world. We will deliver on our mission by building a strong community, providing transformative educational experiences, conducting high-impact research, seeking meaningful engagement, and becoming a resilient organisation post COVID-19. Join us in shaping a new intellectual agenda to reimagine engineering, computing, and the use of technology in the world.

The School of Computing in collaboration with the Defence Science and Technology Group (DST) and the Australian Signal Directorate (ASD) is a leading centre in formal modelling, analysis and verification of safety-critical systems, aiming at trustworthy and resilient systems. The School brings together the best and brightest researchers, fostering a vibrant culture of enabling technologies for the 21st century.

**KEY ACCOUNTABILITY AREAS**

The Research Fellow will develop foundations and tools for specifying and verifying software, with a particular emphasis on applications in the areas of concurrency, programming languages, and security. Foundations should be based on sound mathematical frameworks, e.g., process algebra or operational semantics. Tool support can range from frameworks within interactive proof assistants via the use of off-the-shelf model checkers to code generation. The Research Fellow should apply the developed theory to real-world case studies, such as compiler verification, or the analysis of protocols in terms of correctness or security. The successful candidate is encouraged to develop new and innovative research directions in their specified scientific impact domain, including relevant collaborations.
The role is a research-focused position. However, the Research Fellow may undertake work in all three areas of academic activity—research, education, and service (including outreach). The allocation of time to each area will be discussed with the position supervisor. The Research Fellow may also be required to supervise or assist in the supervision of students and contribute cooperatively to the overall intellectual life of the School, College and University.

### POSITION DIMENSION & RELATIONSHIPS

The Research Fellow will be a member of the School of Computing, accountable to their direct supervisor and the Director of the School. The Research Fellow will be expected to work collegially, leading by example to develop and maintain effective, productive, and beneficial workplace relationships with all academic and professional School and College staff, students and honorary appointees, as well as with industry stakeholders. This position will also have a mentoring role for students and will engage in collegial and productive collaborations with local, national, and where possible, international colleagues.

### ROLE STATEMENT

A Level B academic will undertake independent research and teaching in their discipline or related area of computational science. In research and/or scholarship and/or teaching a Level B will make an independent contribution through professional practice and expertise and coordinate and/or lead the activities of other staff, as appropriate to the discipline.

In their role as an Academic Level B, the Research Fellow is expected to:

1. Undertake independent research in formal treatments of modelling and verifying software systems.
2. Publish original and innovative results in refereed conferences and journals, presenting research at academic seminars and at national and international conferences, and collaborate with other researchers at a national level.
3. Collaborate with senior staff to actively seek and secure external funding, assist to prepare and submit research proposals to external funding bodies as appropriate.
4. Supervise students working on individual or group projects at undergraduate, Honours, graduate-coursework levels. Assist with supervision of research students.
5. Assist in outreach activities including to prospective students, research institutes, industry, government, the media, and the public.
6. Maintain high academic standards in all research, education and administration endeavours.
7. Actively contribute to all aspects of the operation of the School.
8. Take responsibility for their own workplace health and safety and not willfully place at risk the health and safety of another person in the workplace.
9. Other duties as required that are consistent with the classification 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 in computer science or a related area, with a track record of independent research in the field of formal methods.
2. Evidence of the ability to publish in peer-reviewed journals and conferences, a record of developing and maintaining collaborations and by other measures such as awards, and invitations to present at conferences.
3. Evidence of the ability to articulate and prosecute innovative research in the field of formal methods and a vision for the activities they will undertake at the ANU.

4. Evidence of experience in formal methods, proof engineering, or related fields

5. An ability to supervise and graduate high quality postgraduate research students.

6. The demonstrated ability to work as part of a team, contributing to team management and a demonstrated ability to meet deadlines.

7. Excellent oral and written English language skills and a demonstrated ability to communicate and interact effectively with a variety of staff and students in a cross-disciplinary academic environment and to foster respectful and productive working relationships with staff, students, and colleagues at all levels.

8. A demonstrated understanding of equal opportunity principles and policies and a commitment to their application in a university context.

The ANU conducts background checks on potential employees, and employment in this position is conditional on satisfactory results in accordance with the Background Checking Procedure which sets out the types of checks required by each type of position.

Supervisor/Delegate Signature: ______________________________ Date: __________

Printed Name: ______________________________ Uni ID:

References:

ANU Minimum Standards for Academic Levels CECS Strategic Intent

CECS Academic Performance Standards