RESEARCH FELLOW

DEPARTMENT/UNIT   Department of Software Systems and Cybersecurity

FACULTY/DIVISION   Faculty of Information Technology

CLASSIFICATION   Level A

DESIGNATED CAMPUS OR LOCATION   Clayton campus

ORGANISATIONAL CONTEXT

Everyone needs a platform to launch a satisfying career. At Monash, we give you the space and support to take your career in all kinds of exciting new directions. You'll have access to quality research, infrastructure and learning facilities, opportunities to collaborate internationally, as well as the grants you'll need to publish your work. We're a university full of energetic and enthusiastic minds, driven to challenge what's expected, expand what we know, and learn from other inspiring, empowering thinkers. Discover more at www.monash.edu.

The Faculty of **Information Technology** aims to lead global IT research and education. Our strong reputation and international profile attracts the best students worldwide and we offer a range of accredited courses that transform our graduates into highly skilled and sought after IT professionals, equipped to work globally. Our research is multi-disciplinary, multi-campus and multi-national, giving us a unique capacity to reach out further and deeper than any other institution in Australia. Our research priorities are both technically ambitious and embedded in everyday life. To learn more about the Faculty and the exciting work we do, please visit our website: www.infotech.monash.edu.au.

About the **Cyber Security and Systems Group (CSS)**. The proliferation of mobile devices, sensors and social networks has created massive amounts of data about individuals, groups and organisations. The accessibility of this data through online computing services and communication devices has brought with it an abundance of security challenges, from privacy violations through to financial fraud and service interruptions. Supported by three of the leading research groups in Australia – the Monash Cyber Security Group, Database Systems Group and Software Systems Group – research in cyber security at Monash aims to enforce security without compromising the convenience of online services.

POSITION PURPOSE

The Level A research-only academic is expected to contribute towards the research effort of the University and to develop their research expertise through the pursuit of defined projects relevant to the particular field of research.

LibFuzzer has been extremely successful in exposing vulnerabilities in security-critical software. Over the last five years, it has only been a question of finding new fuzz targets to expose more vulnerabilities. The main objective of the project is to improve the effectiveness of LibFuzzer to make progress when the seed corpus is already saturated (i.e., no more progress has been made). Instead of waiting for LibFuzzer to generate an input that penetrates into previously unseen regions of the program entirely automatically, we first suggest to bring the human in the loop.

Reporting Line: This position will report to the senior academic

Supervisory Responsibilities: Not applicable

Financial Delegation: Not applicable

Budget Responsibilities: Not applicable

KEY RESPONSIBILITIES

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

1. The conduct of research under limited supervision either as a member of a team or, where appropriate, independently and the production or contribution to the production of conference and seminar papers and publications from that research

2. Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise

3. Limited administrative functions primarily connected with the area of research of the academic

4. Development of a limited amount of research-related material for teaching or other purposes with appropriate guidance from other staff

5. Occasional contributions to teaching in relation to their research project(s)

6. Experimental design and operation of advanced laboratory and technical equipment or conduct of advanced research procedures

7. Attendance at meetings associated with research or the work of the organisational unit to which the research is connected and/or at departmental, school and/or faculty meetings and/or membership of a limited number of committees

8. Advice within the field of the staff member's research to postgraduate students

9. Other duties as directed from time to time

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:

   - A doctoral qualification in the relevant discipline area or equivalent qualifications or research experience

Knowledge and Skills

2. Demonstrated analytical and manuscript preparation skills; including a track record of refereed research publications in cybersecurity or cryptography

3. Ability to solve complex problems by using discretion, innovation and the exercise diagnostic skills and/or expertise

4. Well-developed planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines

5. Excellent written communication and verbal communication skills with proven ability to produce clear, succinct reports and documents

6. A demonstrated awareness of the principles of confidentiality, privacy and information handling

7. A demonstrated capacity to work in a collegiate manner with other staff in the workplace

8. Demonstrated computer literacy and proficiency in the production of high level work using software such as Microsoft Office applications and specified university software programs, with the capability and willingness to learn new packages as appropriate

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

GOVERNANCE

Monash University expects staff to appropriately balance risk and reward in a manner that is sustainable to its long-term future, contribute to a culture of honesty and integrity, and provide an environment that is safe, secure and inclusive. Ensure you are aware of and adhere to University policies relevant to the duties undertaken and the values of the University. This is a standard which the University sees as the benchmark for all of its activities in Australia and internationally.