POSITION DESCRIPTION

Position Title:	Lecturer/Senior Lecturer in Cyber Security (Cyber Automation)
Organisation Unit:	School of Information Technology and Electrical Engineering
Position Number:	NEW
Type of Employment:	Full-time, Continuing
Classification:	Research Academic Level B/C

THE UNIVERSITY OF QUEENSLAND

The University of Queensland (UQ) contributes positively to society by engaging in the creation, preservation, transfer and application of knowledge. UQ helps shape the future by bringing together and developing leaders in their fields to inspire the next generation and to advance ideas that benefit the world. UQ strives for the personal and professional success of its students, staff and alumni. For more than a century, we have educated and worked with outstanding people to deliver **knowledge leadership for a better world**.

UQ ranks in the world's top universities, as measured by several key independent ranking, including the Performance Ranking of Scientific Papers for World Universities (43), the US News Best Global Universities Rankings (52), QS World University Rankings (47), Academic Ranking of World Universities (55), and the Times Higher Education World University Rankings (60). UQ again topped the nation in the prestigious Nature Index and our Life Sciences subject field ranking in the Academic Ranking of World Universities was the highest in Australia at 20.

UQ has an outstanding reputation for the quality of its teachers, its educational programs and employment outcomes for its students. Our students remain at the heart of what we do. The UQ experience – the UQ Advantage – is distinguished by a research enriched curriculum, international collaborations, industry engagement and opportunities that nurture and develop future leaders. UQ has a strong focus on teaching excellence, winning more national teaching excellence awards than any other in the country and attracting the majority of Queensland's highest academic achievers, as well as top interstate and overseas students.

UQ is one of Australia's Group of Eight, a charter member of edX and a founding member of Universitas 21, an international consortium of leading research-intensive universities.

Our 50,000-plus strong student community includes more than 13,000 postgraduate scholars and more than 12,000 international students from 144 countries, adding to its proud 240,000-plus alumni. The University has about 7,000 academic and professional staff and a $1.8 billion annual operating budget. Its major campuses are at St Lucia, Gatton and Herston, in addition to teaching and research sites around Queensland and Brisbane city. The University has six Faculties and four University-level Institutes. The Institutes, funded by government and industry grants, philanthropy and commercialisation activities, have built scale and focus in research areas in neuroscience, biomolecular and biomedical sciences, sustainable minerals, bioengineering and nanotechnology, as well as social science research.

UQ has an outstanding track-record in commercialisation of our innovation with major technologies employed across the globe and integral to gross product sales of $11billion+ (see http://uniquest.com.au/our-track-record).

UQ has a rapidly growing record of attracting philanthropic support for its activities and this will be a strategic focus going forward.

School of Information Technology & Electrical Engineering

It is an exciting time to get involved with the School of Information Technology and Electrical Engineering, located on UQ's St. Lucia campus. The School is ramping up its investment in teaching, research and engagement to create an inspiring, diverse and flexible workplace. The direction is backed by a bold, new strategic vision to ensure the School is at the forefront of meaningful research outcomes and pedagogy across its core impact areas of health, data, automation and energy. Boasting strong student enrolments in professionally accredited programs, combined with world-class researchers and facilities, the School is focused on strengthening its position in the global computer science and engineering communities. By attracting the brightest minds and fostering a truly innovative and collaborative work environment, the School will develop global solutions to contemporary issues and mentor the leaders of tomorrow.

Our people are our greatest asset. We offer collaborative, inclusive work and study places, which are enriched by the significant diversity of our staff, students and community. We genuinely believe that creativity and innovation flourishes in an environment where people feel supported, valued and empowered. Mutual respect, inclusivity and accountability are at the cornerstone of UQ's culture.

The School is committed to supporting the career growth of women researchers and have a number of initiatives to support women in developing and achieving a fulfilling research career at the School.

Details of the School may be accessed on its website at http://www.itee.uq.edu.au/.

Information for Prospective Staff

The School recognises and values equity and diversity, and encourages applications from any individual who meets the requirements of this position irrespective of gender, sexuality, race, ethnicity, religion, disability, age or other protected attributes. The School strives to provide an inclusive working environment, and along with the University is committed to supporting staff with family and caring responsibilities by providing policies, programs and initiatives to help balance work and family responsibilities.

Further information about life at UQ including staff benefits, relocation and UQ campuses is available at - http://www.uq.edu.au/current-staff/working-at-uq

The University of Queensland Enterprise Agreement outlines the position classification standards for Levels A to E.

DUTY STATEMENT

Primary Purpose of Position

The position of Lecturer/Senior Lecturer is responsible for undertaking research; teaching at undergraduate and postgraduate level including course coordination; research higher degree student supervision; and professional activities in the field of Cyber Security with a focus on cyber security automation. We welcome applications from computer scientists with expertise in cyber security autonomy and automation, covering areas including but not limited to security automation and orchestration, incident response, exploit generation, reverse engineering, symbolic execution, program testing, fuzzing, vulnerability detection and mitigation, and security information and event management. Experts with experience and interest in applying machine learning and AI planning to cyber security are also welcome to apply. Experience or an interest in engineering or standardizing industry-grade cyber security solutions will be highly regarded. We seek to appoint a scientist with interest and experience in systems thinking and well versed in vulnerability discovery and exploitation technologies.

The appointee will contribute to the University's new cyber security initiative, with research work expected to be focused on the intersection of incidence response, software engineering data science and cyber security.

This appointee also serves as an interface with all participating schools in the UQ cyber security initiative, and AusCERT – a leading Cyber Emergency Response Team for Australia located in UQ (https://www.auscert.org.au), and the Data and Knowledge Engineering Group. The collaboration with AusCERT provides access to cyber security expertise and a treasure-trove of anonymised network security data, opportunities to evaluate research outcomes in operational enterprise networks, and access to member organisations on the front-line of contemporary cyber security issues.

Duties

Duties and responsibilities include, but are not limited to:

<u>**Teaching and Learning**</u>

- Coordinate courses, prepare and deliver lectures, and tutorials, and undertake assessment and marking for undergraduate and postgraduate courses.
- Initiate the development of new course material in the areas of vulnerability assessment, penetration testing and secure program development, applying research and scholarship. Participate in educational practice and innovative curriculum design including online learning and alternative teaching methods. Maintain and improve the quality of courses as measured through evaluation instruments to meet industry and educational standards.
- Participate in program and course development activities in the School, including consulting with program advisors and stakeholders to ensure courses are engaging, relevant and contemporary.
- Understand and apply University Rules relevant to teaching and learning practice.
- Teach and supervise research honours and postgraduate students.
- Provide high quality service to students, including academic counselling and advice.
- Provide support to other academic positions as needed and during absences.

Research

- Develop a research program commensurate with the strategic priorities of the UQ Cyber Security Initiative.

- Conduct research and publish scholarly papers in both academic peer-reviewed and professional journals that contribute to the School's strategic research strengths.

- Develop a research profile of international standing that is funded by external granting agencies.

- Work collaboratively with colleagues and postgraduates in the development and conduct of joint research projects, especially projects that are interdisciplinary and contribute to the strategic direction of the School.

Service and Engagement

- Create, foster and enhance national and international links with relevant industry, government departments, universities, professional bodies and the wider community to assist the advancement of University, Faculty and School strategic objectives.

- Perform a range of administrative functions in the School.

- Contribute to the processes that enable the academic team to manage the work of the School, including participate in School decision-making and serve on School committees

- Any other duties as reasonably directed by your supervisor.

For Appointment at Level C

All of the duties listed above in addition to:

- Participate in events to attract postgraduate students to the UQ Cyber Security Initiative,

- Provide leadership within the UQ Cyber Security Initiative in research training and supervision,

- Have an active and effective record of principal supervision of research higher degree students.

- Perform a range of higher level internal duties and provide strong contribution to activities relevant to the UQ Cyber Security Initiative and the external community – including industry.

<u>Other</u>

Ensure you are aware of and comply with legislation and University policy relevant to the duties undertaken, including but not exclusive to:

- the [University's Code of Conduct](#)

- requirements of the Queensland occupational health and safety (OH&S) legislation and related [OH&S responsibilities and procedures](#) developed by the University or Institute/School

- the adoption of sustainable practices in all work activities and compliance with associated legislation and related University [sustainability responsibilities and procedures](#)

- requirements of the Education Services for Overseas Students Act 2000, the National Code 2007 and associated legislation, and related [responsibilities and procedures](#) developed by the University

Organisational Relationships

The position reports to the Chair and Director of UQ Cyber Security, Professor Ryan Ko.

SELECTION CRITERIA

- PhD in the area of computer science, cyber security and/or mathematics.

- Demonstrated expert knowledge in cyber security autonomy and security automation, covering areas including but not limited to exploit generation, reverse engineering, symbolic execution, program testing, fuzzing, vulnerability detection and mitigation, security information and event management. Experts with experience and interest in applying machine learning and AI planning to cyber security are also welcome to apply.

- A track record of original thinking and fresh approaches to cyber security research, as evidenced by publications in CORE A* conferences and top journals.

- Demonstrated teaching skills at undergraduate and postgraduate levels

- An ability to establish effect relationships and to represent and promote academic discipline at a university and wider community level, including industry, government and professional bodies.

- Evidence of research translation, including successful external grant applications.

- Ability to work collaboratively with colleagues in the development and conduct of joint research projects, especially projects that are interdisciplinary and contribute to the strategic direction of the School and the Cyber Security Initiative.

- Experience in bug bounty programmes or responsible disclosures.

- Ability to obtain high security clearance for government contract work.

<u>For Appointment at Level C:</u>

All of the criteria listed above, as well as the following:

- National recognition in the area of expertise and a very strong record of publications in high level refereed journals and top-ranked computer science conferences.

- Track record of supervision of Honours and Research Higher Degree students to successful completion,

- Ability to successfully lead a research team to deliver outputs to industry.

Seminar

Applicants invited for interview may be expected to present a seminar in conjunction with the selection interview process.

Qualification Verification

An appointment to this position is subject to the verification of the highest academic qualification from the conferring institution.

The University of Queensland values diversity and inclusion and actively encourages applications from those who bring diversity to the University. Please refer to the University's Diversity and Inclusion webpage (http://www.uq.edu.au/equity) for further information and points of contact if you require additional support.

This role is a full-time position; however flexible working arrangements may be negotiated.

Accessibility requirements and/or adjustments can be directed to the contact person listed in the job advertisement.