CyberSEA Research Lab
Carleton University
https://carleton.ca/cybersea/
@carleton-cybersea

Systems and Computer Engineering
Carleton University
1125 Colonel By Drive
Ottawa, ON K1S 5B6

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November 13, 2026

Position Available: Undergraduate Student Researcher

Applications of Agentic AI for Network Analysis and Vulnerability Assessment

The Cyber Security Evaluation and Assurance (CyberSEA) Research Lab at Carleton University is actively seeking an undergraduate student researcher to contribute to the next phase of funded research project titled "Applications of Agentic AI for Network Analysis and Vulnerability Assessment." The project will be conducted in collaboration with General Dynamics Mission Systems - Canada (GDMS-C).

Position Details

- **Position:** Undergraduate Student Researcher
- **Expected Start/End Dates:** January 2027 — April 2027
- **Hours:** Part-Time (10-20 hours per week)
- **Duties and Responsibilities:** Develop scripts, configure virtualized network scenarios, and perform testing to support research activities.
- **Salary:** Successful candidates will receive compensation in the form of an undergraduate research assistantship. The hourly rate will be determined at the time of the offer, taking into consideration factors such as academic standing, relevant experience, research potential, and available funding. The minimum hourly rate is $25.00/hour.

Project Description

This project explores the application of agentic artificial intelligence (AI) techniques to cybersecurity, with a focus on automated network analysis, vulnerability assessment, and adaptive cyber defence. The research investigates how AI agents can interact with network environments to analyze configurations, identify threats and vulnerabilities, and recommend or execute defensive actions.

This position will focus on establishing the foundations for agentic AI-driven network security analysis, including defining network information models, identifying relevant data sources, and establishing data collection and monitoring environments. The candidate will also explore approaches for enabling AI agents to reason about network configurations and support automated security analysis and defensive decision-making.

Desired Skills/Qualifications

Suitable candidates will be enrolled in Bachelor's degree in Software Engineering, Computer Systems Engineering, Commmunications Engineering, Information Technology, Computer Science, or a related field **at Carleton University**. Ideal candidates will be self-motivated with an ability to work independently and to communicate effectively in a team environment. A good understanding of directory services and ICAM concepts and hands-on experience deploying and configuring Linux-based directory solutions (OpenLDAP, Keycloak, or similar) and basic scripting skills in python or bash are considered strong assets.

Research Environment

The successful candidate will join a collaborative, interdisciplinary research environment within the General Dynamics Mission Systems–Canada/Carleton University Cyber Operations Reference Lab (GCOR Lab), hosted by the CyberSEA Research Lab at Carleton University. The GCOR Lab supports applied research in cybersecurity and cyber operations, bringing together projects in cyber training and simulation, network modelling, artificial intelligence, and resilient network services. The candidate will have opportunities to collaborate with undergraduate researchers, graduate students, and postdoctoral fellows working on complementary projects, engage with the broader research activities of the CyberSEA Research Lab, and interact with industry partners and other project stakeholders.

The candidate will receive regular research supervision and participate in research group meetings, technical discussions, collaborative development activities, and peer mentoring. Training and professional development will include research methodologies, technical skills relevant to the project, practical experience with cybersecurity tools and technologies, scientific writing, and the effective communication of research results. The collaborative environment will provide opportunities to learn from researchers with different levels of experience and contribute to multidisciplinary research activities.

The candidate will be encouraged and supported in presenting their work at research and professional events, contributing to technical reports and scholarly publications, and developing the skills needed to conduct independent research and collaborate effectively within a research team. Opportunities to engage directly with project partners, including General Dynamics Mission Systems–Canada, will provide exposure to industry perspectives, applied research challenges, and the practical considerations involved in translating research outcomes into operational contexts.

Application Enquiries

Due to the high volume of generic and automated enquiries, only messages that explicitly identify an open position currently posted by the CyberSEA Research Lab and clearly explain how the applicant's background, experience, and research interests align with that position will be considered. Generic enquiries or messages that do not demonstrate a specific connection to the advertised project will not receive a response.

How to Apply

Interested applicants are to send a **CV** and **Statement of Interest** detailing your research interests, background, and experience by email to the CyberSEA Lab Director (Jason Jaskolka: jason.jaskolka@carleton.ca) and Project Lead Researcher (Ali Sadeghi Jahromi: AliSadeghijahromi@cmail.carleton.ca). Please include the specific **position posting number** in the subject line of your email.

Contact

Jason Jaskolka, Ph.D., P.Eng.
Systems and Computer Engineering | Carleton University
Canal Building 6206 | 1125 Colonel By Drive | Ottawa, ON K1S 5B6
jason.jaskolka@carleton.ca
https://carleton.ca/jaskolka/
@jason-jaskolka

For more information about how to apply, please visit: https://carleton.ca/cybersea/positions-available/

Application Deadline

Applications will be reviewed as they arrive until a suitable candidate is found.