



CyberSEA  
Research Lab  
Carleton University



**CyberSEA Research Lab**  
Carleton University  
🌐 <https://carleton.ca/cybersea/>  
in @carleton-cybersea

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

April 6, 2026

## Position Available: M.A.Sc./Ph.D. Candidate

### *Agentic AI for Network Analysis and Cyber Defense*

The **Cyber Security Evaluation and Assurance (CyberSEA) Research Lab** at Carleton University is actively looking for a graduate student at the Masters or Doctoral level to work on a funded research project titled “Agentic AI for Network Analysis and Cyber Defense” starting in September 2026 or sooner. The project will be conducted in collaboration with **General Dynamics Mission Systems - Canada (GDMS-C)**.

### Project Description and Objectives

The general objective of the project is to explore how agentic artificial intelligence (AI) techniques can be used to support cybersecurity tasks such as automated network analysis, intrusion detection, and adaptive mitigation strategies. The work will involve identifying how agent-based AI systems can interact with live network environments to analyze configurations, detect threats or vulnerabilities, and proposing or applying defensive actions, culminating in a working lightweight prototype.

The project will also involve defining network information models and identifying relevant data sources to support agent operations. It also includes preparing data collection and monitoring environments for experimental deployment, evaluating LLM-based agentic architectures and tools for security automation and reasoning, and developing a lightweight agent prototype for automated network analysis.

### Project Keywords:

- cybersecurity
- artificial intelligence (AI)
- agentic AI
- network analysis
- intrusion detection

### Desired Skills/Qualifications

Suitable candidates will have a Bachelor’s and/or Master’s degree in Software Engineering, Computer Science, Information Technology, or a related field. Ideal candidates will be self-motivated with an ability to work independently and to communicate effectively in a team environment. The ideal candidate should have a strong understanding of core cybersecurity concepts, including network traffic analysis, network monitoring tools, intrusion detection systems (IDS), vulnerability assessment, and SIEM principles. Proficiency in Python is required, along with experience in tool and API integration; familiarity with prompt engineering is considered a strong asset. A background in artificial intelligence or machine learning is highly desirable, particularly with hands-on experience in LLM-based systems.

All candidates must satisfy the **Minimum Admission Requirements for Doctoral Programs** at Carleton University. International candidates must also ensure that they satisfy the **English as a Second Language Requirements**. In all cases, these requirements will be strictly enforced when evaluating an application for admission.

## Funding

Successful candidates for this position will be *eligible for funding* in the form of a research assistantship. Specific funding details are determined at the time of offer and consider numerous factors such as academic standing, research potential, availability of funds, eligibility for teaching assistantship and/or scholarships, etc.

## Host Research Institute Information

**Carleton University** is a public comprehensive university, founded in 1942, in Ottawa, Ontario, Canada. The research-intensive Faculty of Engineering and Design at Carleton University is recognized as one of Canada's leading institutions in the study and research of engineering, architecture, industrial design and information technology. Since the inception of engineering at Carleton in 1945, our experts have pushed the bounds of innovation and discovery. Carleton focuses on anticipating the needs of industry and society, and offers forward-thinking programs with real world application and produces research that is helping to shape our present and future. The **Department of Systems and Computer Engineering** is a recognized world-class institution in software engineering, computer systems engineering, communications engineering, and biomedical engineering. Together with the Department of Electronics, the Department of Systems and Computer Engineering constitutes one of the largest and most research-intensive centres for Electrical and Computer Engineering and Software Engineering education and research in Canada. The **Cyber Security Evaluation and Assurance (CyberSEA) Research Lab** conducts advanced academic research to develop systematic and rigorous approaches for evaluating and assuring the cyber security of software-dependent systems.

## Further Information

For more information about Graduate Studies at **Carleton University** and the **Department of Systems and Computer Engineering**, please visit: <https://carleton.ca/sce/graduate-studies/>. For more information about applying for Graduate Studies at Carleton University, please visit: <https://graduate.carleton.ca/apply-online/>. For more information about funding for Graduate Studies, please visit: <https://graduate.carleton.ca/financial-assistance/admissions-funding/>.

## 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](mailto:jason.jaskolka@carleton.ca)) and Project Lead Researcher (Ali Sadeghi Jahromi: [AliSadeghijahromi@cmail.carleton.ca](mailto:AliSadeghijahromi@cmail.carleton.ca)):

### **Jason Jaskolka, Ph.D., P.Eng.**

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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.