

ADRIAN (SHUAI) LI

305 N University S, West Lafayette, IN 47907

📞 765-775-3121 ✉ li3944@purdue.edu [in linkedin.com/in/adrian-shuai-li-616487107](https://www.linkedin.com/in/adrian-shuai-li-616487107) github.com/gloryer

EDUCATION

Purdue University **Expected Graduation Date: August 2024**
Ph.D. in Computer Science, Advisor: Elisa Bertino, GPA: 4.0/4.0 West Lafayette, IN

University of Calgary **January 2020**
M.Sc. in Computer Science, Advisor: Rei Safavi-Naini, GPA: 4.0/4.0 Calgary, Canada
Master Thesis: A Capability-based System to Enforce Context-aware Permission Sequences

Wuhan University **July 2017**
BSc. in Computer Science, GPA: 3.7/4.0 Wuhan, China

EXPERIENCE

AI-powered Approaches for Security

Purdue University **May 2021 – Present**
Graduate Research Assistant West Lafayette, IN

- Developed a multi-source domain adaptation approach able to detect attacks on the target network with significantly small labelled data by transferring knowledge gained from existing network intrusion datasets
- Collaborated on a novel cross-domain transfer learning approach that requires no labelled samples from the target as part of the IBM DAIS project

Network Security & Ransomware Analysis

Graduate Course Projects **January 2021 – May 2021**
<https://gitlab.com/purdue-cs536/spring-2021/public/-/tree/master/projects/47>

- Designed and developed an industrial control system network running over QUIC to eliminate the head-of-line blocking issues inherent with TCP and provide lower-latency connection establishment than TCP/TLS
- Simulated the network communications on a mininet virtual network with various network conditions (delay, packet loss) and evaluated the connection latency using Wireshark
- Analysed the encryption scheme, defense evasion and data exfiltration techniques of the Flotera ransomware using approaches including static analysis and reverse engineering, dynamic analysis with debuggers

Security Architecture

TELUS Communications **March 2020 – September 2020**
Security Research Intern Calgary, Canada

- Assessed security of Ansible – a configuration management tool that automates deployment and manages services efficiently on the organization’s infrastructure
- Incorporated context into Ansible Tower’s token-based authentication, allowing Ansible Tower to authenticate the user with a token and verify any associated context
- Communicated with TELUS security architects and contributed python codes to add the above feature in Ansible Tower’s open source project (AWX)

Access Control & Cryptographic protocols

Institute for Security, Privacy and Information Assurance **September 2017 – January 2020**
Graduate Research Assistant Calgary, Canada

- Proposed a distributed token-based authorization system that provides efficient and refined (conditional) access to data on the Web
- Deployed the implemented system for sharing patient data in smart health care
- Tested the functionality and performance of the implemented REST APIs under large-scale TLS enabled HTTPS queries using Postman and Apache JMeter
- Designed cryptographic authentication and OAuth 2.0 based authorization for a home hub that continues to provide essential services in a cloud-based smart home when the cloud is unavailable
- Collaborated research team with the implementation of a secure logging protocol in Java and integrated this software into various hardware devices

PUBLICATIONS

S. Li, R. Safavi-Naini and P. W. Fong—**A Capability-based System to Enforce Context-aware Permission Sequence**, Master thesis.

S. Avizheh, R. Safavi-Naini and **S. Li**—**Secure Logging with Security against Adaptive Crash Attack**, Proceedings of the 2019 International Symposium on Foundations & Practice of Security (FPS), Nov 2019.

T. T. Doan, R. Safavi-Naini, **S. Li**, S. Avizheh, M. Venkateswarlu K., and P. W. Fong— **Towards a Resilient Smart Home** (received best paper award), Proceedings of the 2018 ACM SIGCOMM Workshop on IoT Security and Privacy (IoT S&P), Aug 2018

ADDITIONAL EXPERIENCE

Purdue University

January 2021 – May 2021

Graduate Teaching Assistant for CS 182

West Lafayette, IN

- Implemented interactive teaching philosophy in the lab sessions to promote understanding of the foundations of computer science
- Constructed and graded assignments to facilitate materials covered in class

University of Calgary Computer Science Graduate Society

June 2018 – May 2019

VP communication

Calgary, Canada

- Organized and marketed over eight social events and academic workshops to enhance student activity in the graduate community
- Applied and received \$10,000 grant to support society budget
- Led a food bank donation campaign among faculty, staff and students for the university food bank

Security Researchers and Industry Experts Talks

Sep 2018

Program Committee

Calgary, Canada

- Arranged venues and catering for a full-day event with over 50 participants

TECHNICAL SKILLS

Programming: Java, JavaScript, Node.js, Python, SQL

Security: Identity and Access Management, Cryptography, Malware Analysis, Software Defined Network

Tools: Wireshark, MININET, ONOS, OpenSSL, Kali Linux, dnSpy, OpenID, OAuth 2.0

Machine learning: Deep Learning, Domain Adaptation

Tools: NumPy, Pandas, Tensorflow, Scikit-learn, Keras

General: Express, Django, Git, Docker, Ansible, Apache JMeter, Postman, MongoDB