

Quinn Burke

PH.D. STUDENT · COMPUTER SCIENCE AND ENGINEERING

W378 Westgate Building, University Park, PA 16802, USA

✉ qkb5007@psu.edu

🏠 www.quinnburke.net

📄 quinnburke

🐦 @_quinnburke

🎓 google scholar

Professional Experience

Systems and Internet Infrastructure Laboratory

RESEARCH ASSISTANT

University Park, PA, USA

01/2018—Present

Capital One Financial Corporation

SOFTWARE ENGINEERING INTERN

McLean, VA, USA

05/2018—08/2018

Penn State Applied Research Laboratory

SOFTWARE ENGINEERING INTERN

University Park, PA, USA

12/2016—01/2018

JPMorgan Chase & Co.

SOFTWARE ENGINEERING INTERN

Newark, DE

05/2017—08/2017

Xerox Corporation

SOFTWARE ENGINEERING INTERN

Rochester, NY

05/2016—08/2016

Education

The Pennsylvania State University

PH.D., COMPUTER SCIENCE AND ENGINEERING

Advisor: Prof. Patrick McDaniel

University Park, PA, USA

2020—Present

The Pennsylvania State University

M.S., COMPUTER SCIENCE AND ENGINEERING

Advisor: Prof. Patrick McDaniel

University Park, PA, USA

2018—2020

The Pennsylvania State University

B.S., COMPUTER SCIENCE

University Park, PA, USA

2014—2018

Publications

CONFERENCE PROCEEDINGS

- Yohan Beugin, **Quinn Burke**, Blaine Hoak, Ryan Sheatsley, Eric Pauley, Gang Tan, Syed Rafiul Hussain, and Patrick McDaniel. “Building a Privacy-Preserving Smart Camera System”. In: *Proceedings on Privacy Enhancing Technologies Symposium (PETS)*. July 2022.
- Tian Xie, Sanchal Thakkar, Ting He, Patrick Drew McDaniel, and **Quinn Burke**. “Joint Caching and Routing in Cache Networks with Arbitrary Topology”. In: *Proceedings of the International Conference on Distributed Computing Systems (ICDCS)*. July 2022.
- Eric Pauley, Ryan Sheatsley, Blaine Hoak, **Quinn Burke**, Yohan Beugin, and Patrick McDaniel. “Measuring and Mitigating the Risk of IP Reuse on Public Clouds”. English. In: *2022 IEEE Symposium on Security and Privacy (S&P)*. IEEE Computer Society, May 2022.
- Kyle Domico, Ryan Sheatsley, Yohan Beugin, **Quinn Burke**, and Patrick McDaniel. “A Machine Learning and Computer Vision Approach to Geomagnetic Storm Forecasting”. In: *Machine Learning in Heliophysics (ML-Helio)*. Mar. 2022.
- **Quinn Burke**, Patrick McDaniel, Thomas La Porta, Mingli Yu, and Ting He. “Misreporting Attacks in Software-Defined Networking”. In: *International Conference on Security and Privacy in Communication Networks (SecureComm)*. Cham: Springer International Publishing, Oct. 2020, pp. 276–296. ISBN: 978-3-030-63086-7.
- Mingli Yu, Ting He, Patrick McDaniel, and **Quinn Burke**. “Flow Table Security in SDN: Adversarial Reconnaissance and Intelligent Attacks”. In: *IEEE INFOCOM 2020 - IEEE Conference on Computer Communications*. ISSN: 2641-9874. July 2020, pp. 1519–1528. doi: 10.1109/INFOCOM41043.2020.9155538.

JOURNAL ARTICLES

- **Quinn Burke**, Fidan Mehmeti, Rahul George, Kyle Ostrowski, Trent Jaeger, Thomas La Porta, and Patrick McDaniel. “Enforcing Multilevel Security Policies in Unstable Networks”. In: *IEEE Transactions on Network and Service Management* (2022).

- **Quinn Burke**, Patrick McDaniel, Thomas La Porta, Mingli Yu, and Ting He. “Misreporting Attacks Against Load Balancers in Software-Defined Networking”. In: *Mobile Networks and Applications*, Springer (Dec. 2021).
- Mingli Yu, Tian Xie, Ting He, Patrick McDaniel, and **Quinn Burke**. “Flow Table Security in SDN: Adversarial Reconnaissance and Intelligent Attacks”. In: *IEEE/ACM Transactions on Networking* (Aug. 2021). Conference Name: IEEE/ACM Transactions on Networking, pp. 1–14. ISSN: 1558-2566. DOI: [10.1109/TNET.2021.3099717](https://doi.org/10.1109/TNET.2021.3099717).
- Stefan Achleitner, **Quinn Burke**, Patrick McDaniel, Trent Jaeger, Thomas La Porta, and Srikanth Krishnamurthy. “MLNet: A Policy Complying Multilevel Security Framework for Software Defined Networking”. In: *IEEE Transactions on Network and Service Management* 18.1 (Mar. 2021). Conference Name: IEEE Transactions on Network and Service Management, pp. 729–744. ISSN: 1932-4537. DOI: [10.1109/TNSM.2020.3045998](https://doi.org/10.1109/TNSM.2020.3045998).

TECHNICAL REPORTS

- **Quinn Burke**. *Misreporting Attacks Against Load Balancers in Software-Defined Networking*. Master’s Thesis. The Pennsylvania State University, May 2020. URL: https://etda.libraries.psu.edu/files/final_submissions/21551.

Professional Activities

REVIEWER (CONFERENCES)

IEEE Symposium on Security and Privacy	2022 (External Reviewer), 2023 (PC Member)
USENIX Security Symposium	2019, 2020, 2021, 2022 (External Reviewer)
ACM Conference on Computer and Communications Security (CCS)	2019, 2020, 2021 (External Reviewer)
IEEE Computer Security Foundations Symposium (CSF)	2021 (External Reviewer)
Annual International Conference on Mobile Computing and Networking (MobiCom)	2021 (External Reviewer)
ACM SIGCOMM Symposium on SDN Research (SOSR)	2021 (External Reviewer)

REVIEWER (JOURNALS)

IEEE Transactions on Communications 2019

INVITED TALKS

2021 **DEVCOM Army Research Laboratory (Cyber Security CRA)**, *Misreporting Attacks Against Load Balancers in Software-Defined Networking*

TEACHING EXPERIENCE

SUM2019 **CMPSC311—Introduction to Systems Programming**, Teaching Assistant
 SP2020 **CMPSC311—Introduction to Systems Programming**, Teaching Assistant
 F2020 **CMPSC311—Introduction to Systems Programming**, Teaching Assistant
 F2021 **CSE597—Emerging Trends in Computer Security**, Teaching Assistant
 F2021 **CMPSC311—Introduction to Systems Programming**, Teaching Assistant
 F2021 **CSE297—Introduction to C Programming**, Teaching Assistant

Honors & Awards

2020 **Graduate Student Teaching Assistant Award**, The Pennsylvania State University