

Faik Kerem Ors

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EDUCATION

Purdue University

Ph.D. in Computer Science

Initial Academic Advisor: Dr. Z. Berkay Celik

West Lafayette, IN, US

Aug. 2022 – May. 2027 (Anticipated)

Sabancı University

M.Sc. in Computer Science and Engineering

CGPA: 3.87/4.00, Thesis Advisor: Prof. Albert Levi

Thesis: Data Driven Intrusion Detection for 6LoWPAN Based IoT Systems

Istanbul, Turkey

Sep. 2019 – Jan. 2022

Sabancı University

B.Sc. in Computer Science and Engineering, Minor in Mathematics

CGPA: 3.86/4.00, Ranked 3rd

Istanbul, Turkey

Sep. 2014 – June 2019

RESEARCH INTERESTS

Wireless network security, IoT security and privacy; web security; systems and software security; privacy of machine learning applications; adversarial machine learning.

RESEARCH EXPERIENCE

Research Intern

Purdue University - GoBoiler Internship Program (Selected Attendee)

June 2020 – June 2021

West Lafayette, IN, USA

- Implemented a secure and robust context-based group pairing scheme for heterogeneous IoT devices.
- Accepted to IEEE S&P (Oakland) 2023, second cycle.
- Worked remotely due to COVID-19 circumstances under the supervision of Dr. Z. Berkay Celik.

Summer Research Intern

Technical University of Berlin

June 2018 – Sep. 2018

Berlin, Germany

- Implemented deep learning models to optimize the bitrate selection decision on DASH clients.
- Reviewed the literature and delivered an overview presentation on Dynamic Streaming over HTTP (DASH).
- Attended M.Sc. lectures and seminars with the focus on content delivery techniques.
- Supervisors: Dr. Suzan Bayhan and Prof. Abdel-Karim Al-Tamimi

PUBLICATIONS

- Habiba Farrukh*, Muslum Ozgur Ozmen*, **Faik Kerem Ors**, Z. Berkay Celik. One Key to Rule Them All: Secure Group Pairing for Heterogeneous IoT Devices. In *IEEE Security and Privacy (S&P '23)*.
- **Faik Kerem Ors**, and Albert Levi. Data driven intrusion detection for 6LoWPAN based IoT systems. In *Ad Hoc Networks*, 143, pages 103-120, April 2023.
- **Faik Kerem Ors**. Data Driven Intrusion Detection for 6LoWPAN Based IoT Systems. *M.Sc. Thesis*, December 2021.
- **Faik Kerem Ors**, Mustafa Aydin, Aysu Bogatarkan, and Albert Levi. Scalable Wi-Fi Intrusion Detection for IoT Systems. In *11th IFIP International Conference on New Technologies, Mobility and Security (Security Track)*, Paris, France, April 2021.
- **Faik Kerem Ors**, Suveyda Yeniterzi, and Reyhan Yeniterzi. Event Clustering within News Articles, In *Proceedings of the Workshop on Automated Extraction of Socio-political Events from News 2020*, pages 63–68, Marseille, France, May 2020. European Language Resources Association (ELRA). (Proposed system ranked 1st in the shared task).

CONFERENCE PRESENTATIONS

- Scalable Wi-Fi Intrusion Detection for IoT Systems. In *11th IFIP International Conference on New Technologies, Mobility and Security (Security Track)*, Paris, France, April 2021.
- Event Clustering within News Articles, In *Proceedings of the Workshop on Automated Extraction of Socio-political Events from News 2020*, pages 63–68, Marseille, France, May 2020. European Language Resources Association (ELRA).

TEACHING EXPERIENCE

Guest Lecturer

Fall 2023

CS 426, Purdue University

West Lafayette, IN, US

- Gave lectures on buffer overflows, return oriented programming, SQL injection, and cross-site scripting.

Teaching Assistant

Aug. 2022 – Present

Purdue University

West Lafayette, IN, US

- Held office hours, designed and graded exams and assignments.
- Courses (reverse chronological): Computer Security (CS 426; Fall 2023, Spring 2023), Security Analytics (CS 529; Fall 2022)

Teaching Assistant

Feb. 2018 – Jan. 2022

Sabancı University

Istanbul, Turkey

- Held office hours, designed and graded assignments, conducted lab sessions and supervised student projects.
- Courses (reverse chronological): Computer Networks (CS 408; 2022, 2021, 2020), Computer and Network Security (CS 432), Machine Learning (CS 412), Advanced Programming (CS 204), Database Systems (CS 306)

SERVICES

- Reviewer in IEEE Transactions on Information Forensics and Security – 2024
- Reviewer in ITU Journal on Future and Evolving Technologies (ITU J-FET) – 2022
- Reviewer in IEEE International Conference on Communications (ICC) – 2022
- Reviewer in IEEE Conference on Communications and Network Security (CNS) – 2021
- Reviewer in The Computer Journal (Oxford University Press) – 2020, 2021

HONORS AND AWARDS

- Tuition waiver and Graduate Teaching Assistantship offer by Purdue University for graduate studies (2022 – 2027).
- Full tuition waiver and stipend by Sabancı University for graduate studies (2019 – 2021).
- Dean's High Honor List, Sabancı University (2016 – 2019).
- Recipient of Sakıp Sabancı Encouragement Scholarship, which covers 100% of tuition fee, because of academic excellence (2016 – 2019).

TECHNICAL SKILLS

Programming Languages (Proficiency): Python (3/5), C++ (3/5), C# (3/5), Java (3/5), C (2/5), SQL (2/5)

Frameworks and Libraries: Pandas, NumPy, Scikit-learn, Keras, PyTorch, Tensorflow, Flask, Django

Operating Systems: Unix, Linux, Windows

Technologies: git, MySQL, PostgreSQL, Docker, Azure, JUnit, Android Studio

Tools: Wireshark, Metasploit, Hashcat, Burp Suite, Nmap, SQLmap, Wfuzz, IDA, Binwalk, The Harvester, Dirbuster

ADDITIONAL WORK EXPERIENCE

R&D Engineer

Feb. 2019 – Aug. 2019

PRODAFT Cyber Intelligence and Cyber Security Services

Istanbul, Turkey

- Implemented a machine learning based phishing detection system from scratch.
- Developed RESTful microservices to be integrated into the threat intelligence ecosystem of the company.

Security Research Intern

July 2017 – Sep. 2017

PRODAFT Cyber Intelligence and Cyber Security Services

Istanbul, Turkey

- Worked on penetration testing and developed penetration testing tools in Python.