

Fatih Durmaz

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Education

MSc in IoT Security, Cyber Security (16.58/20) University of Southern Brittany & Université Libre de Bruxelles Dissertation: System Security Through Static Analysis by Detecting Dormant Vulnerabilities Advisors: Georgios Portokalidis, Jan Tobias Muehlberg	<i>Oct 2022 – Oct 2024</i> France & Belgium
BSc in Computer Science and Engineering (Gpa: 3.85/4.00) Sabancı University Dissertation: TimeInspector: A Static Analysis Approach for Detecting Timing Attacks Advisors: ErKay Savas, Cemal Yilmaz	<i>Oct 2017 – Jun 2022</i> Istanbul, Turkey

Research Experience

Research Intern , IMDEA Software Institute <ul style="list-style-type: none"> Developed a methodology using static analysis to detect dormant vulnerabilities (<i>CVEs</i>) in systems under investigation, with a focus on Debian-based containers. Designed and implemented a tool that integrates with containers to assess and notify whether a detected vulnerability poses a critical threat. 	<i>Apr 2024 – present</i> Madrid, Spain
Software Development Intern , Nokia Bell Labs <ul style="list-style-type: none"> Developed a state-of-the-art proof of concept (<i>PoC</i>) for ongoing research on multi-tenant client isolation in cutting-edge cloud FPGA environments. Set up cloud deployment infrastructure using k3s and Docker. Documented <i>PoC</i> for the team. Tools: Golang, Kubernetes (K3s), Docker, Embedded Linux, Petalinux, Yocto	<i>Apr 2023 – Jul 2023</i> Lannion, France
Bachelor's Thesis , Sabancı University <ul style="list-style-type: none"> Developed a static analysis method to detect binaries capable of executing timing attacks by analyzing control flow graphs and identifying suspicious execution paths. Achieved high accuracy in detecting malicious binaries during experimental evaluations, with strong results across a range of benign and malicious samples. 	<i>Oct 2022 – Jul 2023</i> Istanbul, Turkey
Undergraduate Researcher , Sabancı University - PURE 🔗 <ul style="list-style-type: none"> Solved matching problems using computational methods, focusing on bipartite graphs and perturbations for stable matching. 	<i>Spring 2020</i> Istanbul, Turkey

Publications

TimeInspector: A Static Analysis Approach for Detecting Timing Attacks Fatih Durmaz, Musa Unal, Melih Taha Oz, Nureddin Kamadan, ErKay Savas, Cemal Yilmaz 10.1109/EuroSPW59978.2023.00037 🔗	<i>June 2023</i>
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Industry Experience

Software Developer Intern , Mainflux <ul style="list-style-type: none"> Upgraded InfluxDB to version 2 and migrated all queries from InfluxQL to FluxQL. Resolved issues with query comparators and added new comparison operators. Tools: Golang, Docker, nGinx, Go-Kit, InfluxDB, Microservices Architecture	<i>Feb 2022 – Oct 2022</i> Remote
Software Developer Intern , Tubitak Bilgem YTE (National Research Institute of Turkey) <ul style="list-style-type: none"> Built the frontend and backend for an event management and marketing platform. Tools: Spring Boot, React.js, PostgreSQL, Spring Security	<i>Aug 2021 – Oct 2021</i> Istanbul, Turkey

Data Science Intern, Faraday Networks

- Developed a tool for anomaly detection in time-series data of customer Wi-Fi sessions, using machine learning models to identify abnormalities.
Tools: PostgreSQL, Python, Facebook Prophet

Jun 2020 – Aug 2020
Istanbul, Turkey

Teaching Experience

Student Assistant, Sabanci University - Advanced Programming (CS 204)

- Created lecture slides on Smart Pointers in C++ and prepared weekly quizzes to reinforce key concepts.

Fall 2019
Lannion, France

Selected Projects

Risk Analysis

- Analyzed and presented NIST SP 800-39 Standard on 'Managing Information Security Risk.'
- Led a team of 10 and employed peer review processes to ensure high-quality deliverables.

Nov 2022
Lorient, France

CSPN Evaluation of Signal App

- Conducted a CSPN Target Evaluation of the Signal app as part of a course on secure advanced programming. Assessed security protocols and data protection measures.

Oct 2022 – Dec 2022
Lorient, France

Lightweight Cryptography Analysis

- Analyzed the Simon and Speck whitepaper for lightweight cryptography, implemented the algorithms, and demonstrated performance differences in software.

Oct 2022 – Nov 2022
Lorient, France

Skills

Languages: English (IELTS 7.5/9), Turkish (Native), French (A2 ULB)

Programming Languages: Python***, C++***, Golang**, C**, Java*, Rust*

Honors and Distinctions

2024 Master's in IoT Security (UBS & ULB)

Honors (*UBS*) and Great Distinction (*ULB*)

2023 Erasmus+ European Commission

Full Erasmus Mundus Scholarship For Masters Program

2022 Sabanci University

Ranked top 4% in Natural Sciences & Engineering Faculty

2022 Sabanci University

Dean's Honor List

2017–2022 Sabanci University

Dean's High Honor List (x5)

2017 National University Admission Exam

Ranked 1481st (top 0.07%)