Fatih Durmaz

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Education

PhD Candidate Computer Science ()
CISPA & Saarland University
Dissertation: -
Advisor: Sven Bugiel
Sep 2025 - Present
Saarland, Germany

MSc in IoT Security, Cyber Security (*Grande Distinction*)
University of Southern Brittany & Université Libre de Bruxelles
Dissertation: Enhancing System Security Through Static Analysis by Detecting Dormant Vulnerabilities
Advisors: Georgios Portokalidis, Jan Tobias Muehlberg
Oct 2022 – Oct 2024
France & Belgium

BSc in Computer Science and Engineering (Gpa: 3.85/4.00)
Sabanci University
Dissertation: TimeInspector: A Static Analysis Approach for Detecting Timing Attacks
Advisors: Erkay Savas, Cemal Yilmaz
Oct 2017 – Jun 2022
Istanbul, Turkey

Research Experience

Research Intern, IMDEA Software Institute
Apr 2024 – Apr 2025
Madrid, Spain

- Developed a methodology using static analysis to detect dormant vulnerabilities *(CVEs)* 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.

Software Development Intern, Nokia Bell Labs
Apr 2023 – Jul 2023
Lannion, France

- Developed a state-of-the-art proof of concept *(PoC)* for ongoing research on multi-tenant client isolation in cutting-edge cloud FPGA environments.
- Set up cloud deployment infrastructure using k3s and Docker. Documented *PoC* for the team.
  Tools: Golang, Kubernetes (K3s), Docker, Embedded Linux, Petalinux, Yocto

Bachelor's Thesis, Sabanci University
Oct 2022 – Jul 2023
Istanbul, Turkey

- 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.

Undergraduate Researcher, Sabanci University - PURE
Spring 2020
Istanbul, Turkey

- Solved matching problems using computational methods, focusing on bipartite graphs and perturbations for stable matching.

Publications

TimeInspector: A Static Analysis Approach for Detecting Timing Attacks
June 2023
Fatih Durmaz, Musa Unal, Melih Taha Oz, Nureddin Kamadan, Erkay Savas, Cemal Yilmaz
10.1109/EuroSPW59978.2023.00037

Industry Experience

Software Developer Intern, Mainflux
Feb 2022 – Oct 2022
Remote

- 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

Software Developer Intern, Tubitak Bilgem YTE (National Research Institute of Turkey) *Aug 2021 – Oct 2021*
Istanbul, Turkey

- Built the frontend and backend for an event management and marketing platform.
  Tools: Spring Boot, React.js, PostgreSQL, Spring Security

Data Science Intern, Faraday Networks *Jun 2020 – Aug 2020*
Istanbul, Turkey

- 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

Teaching Experience

Student Assistant, Sabanci University - Advanced Programming (CS 204) *Fall 2019*
Lannion, France

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

Selected Projects

Risk Analysis *Nov 2022*
Lorient, France

- 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.

CSPN Evaluation of Signal App *Oct 2022 – Dec 2022*
Lorient, France

- 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.

Lightweight Cryptography Analysis *Oct 2022 – Nov 2022*
Lorient, France

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

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 Grande 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%)