Abbas Acar

Security and Privacy Researcher

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RESEARCH INTERESTS

Privacy-preserving technologies, IoT security/privacy, blockchain security, modern authentication techniques

EDUCATION

Florida International University (FIU) *Miami, FL* July 2020

PhD in Electrical and Computer Engineering, GPA: 3.97 / 4.0

Florida International University (FIU) *Miami, FL* April 2019

MSc in Electrical Engineering, GPA: 3.97 / 4.0

Middle East Technical University (METU) *Ankara, Turkey* June 2015

BSc in Electrical and Electronics Engineering, GPA: 3.00 / 4.0

Minor in Mathematics

ACADEMIC EXPERIENCE

Postdoctoral Associate | *Florida International University* August 2020 - Present

- Research: Conducting research on novel security and privacy-related research projects such as cryptojacking malware detection, IoT security/privacy, web security, and mobile device security/privacy.
- Mentoring: Providing mentorship to graduate and undergraduate students during their research.
- Service: Assisting my professor in writing grant proposals, serving as a program committee member, and acting as an external reviewer for several top-tier security conferences and journals.

Graduate Research Assistant | *Florida International University* June 2015 - July 2020

- Research: Worked on several complex cybersecurity projects such as Privacy-Aware Wearable Continues Authentication Framework, IoT security/privacy, and privacy-aware secure data exchange methods.
- Teaching: Assisted my professor with class activities such as the design of the classes, being a substitute if needed, and grading the homework and exams for Internet of Things (IoT)-Cyber-Physical System (CPS) and Network Security classes.

SELECTED PUBLICATIONS

- **[NDSS '24]** A. Acar, G. S. Tuncay, E. Luques, H. Oz, A. Aris, and S. Uluagac. "50 Shades of Support: A Device-Centric Analysis of Android Security Updates". Network and Distributed System Security Symposium (NDSS), 2024.
- **[USENIX Security '23]** H. Oz, A. Aris, A. Acar, G. S. Tuncay, L. Babun, and S. Uluagac. "RøB: Ransomware over Modern Web Browsers". In the 32nd USENIX Security Symposium, 2023.
- **[NDSS '22]** E. Tekiner, A. Acar, and S. Uluagac. "A Lightweight IoT Cryptojacking Detection Mechanism in Heterogeneous Smart Home Networks". Network and Distributed System Security Symposium (NDSS), 2022. [Accept: 16%]
- **[NDSS '22]** L. Babun, A. K. Sikder, A. Acar, and S. Uluagac. "The Truth Shall Set Thee Free: Enabling Practical Forensic Capabilities in Smart Environments". Network and Distributed System Security Symposium (NDSS), 2022. [Accept: 16%]
- **[ACM CSUR '18]** A. Acar, H. Aksu, S. Uluagac, and M. Conti, "A survey on homomorphic encryption schemes: Theory and implementation,". ACM Computing Surveys (CSUR), 2018. [935 citations]

COMPUTER SKILLS

- **Programming Languages:** Python, C/C++, Solidity (basic), Rust (basic), Verilog (basic)
- **Security Tools:** WireShark, Nmap, JtR, Aircrack, OpenVPN, killerbee, Scapy, HackRF One
- **Reverse-engineering:** IDA Pro, OllyDbg, Netcat, Procmon, ApateDNS
- **ML/DL Frameworks:** Scikit-learn, PyTorch, Keras, TensorFlow
- **Blockchain:** Ethereum in BigQuery, web3.py
- **Cryptography:** NTL, HELib, SEAL
- **Web:** Node.js, PHP, WebAssembly (Wasm), HTML, CSS, JSON
- **Data Analysis:** Pandas, SQLite, SciPy, Numpy