Amir Naseredini

Senior CPU Engineer at Huawei Technologies R&D, UK

✉ sahnaseredini@gmail.com   •   🌐 sahnaseredini.github.io

Interests

- Open Source Software
- Rowhammer Attack
- Vulnerability Analysis
- Secure Information Flow
- Programming Languages

- Architecture & Microarchitecture
- Microarchitectural Attacks
- Vulnerability Patching
- Formal Security
- Linux Kernel

Education

University of Sussex   **Brighton, UK**
PhD, Informatics (Computer Science)   *Sep. 2018–Nov. 2023*
Thesis title: "Towards Automatic Analysis of Microarchitectural Attacks"

Amirkabir University of Technology (Tehran Polytechnic)   **Tehran, Iran**
MSc, Information Security Eng.   *Sep. 2015–Feb.2018*
Thesis title: "Algebraic Cryptanalysis of ARX-Design Hash Functions"

University of Kurdistan   **Sanandaj, Iran**
BSc, Information Technology Eng.   *Sep. 2011–July 2015*
Received the 1st Student Award, in the Computer Engineering and Information Technology Department with overall GPA of 92.35%

Experience

Vocational...

Huawei Technologies R&D   **UK**
Senior CPU Engineer   *July 2024–Current*

Canonical   **London, UK**
Security Engineer   *Jan. 2023–June 2024*
- To analyse, fix, and test vulnerabilities in Ubuntu packages
- To keep track of vulnerabilities in Ubuntu releases as they are discovered, researched, and fixed
- To maintain Node.js security in Ubuntu
- To review snaps before granting non-default privileges to them at the Snap Store
- To audit source code for vulnerabilities

Google   **London, UK**
Security Engineer Intern   *Sep. 2022–Dec. 2022*
- To develop kernel modules and device drivers
- To analyse VirtIO devices
- To develop a full stack device in crosvm in order to make the DRAM analysis easier

Royal Holloway, University of London   **London, UK**
Post-Doctoral Research Assistant   *Mar. 2022–Sep. 2022*
○ To carry out research on Active Automata Learning and DRAM security
○ To develop our open source tool, ALARM, to analyse a DRAM model against Rowhammer

Amirkabir University of Technology (Tehran Polytechnic)   **Tehran, Iran**
Security Researcher   *Feb. 2017–Sep. 2018*
○ To carry out research on computer security assessment
○ To perform web application penetration testing

Miscellaneous...

University of Sussex   **Brighton, UK**
Associate Tutor   *Sep. 2018–Sep.2022*
To help running various modules in the Department of Informatics

TU Graz   **Graz, Austria**
Visiting Researcher   *Sep. 2020–Mar. 2021*
○ To carry out research on Microarchitectural Attacks and Programming Languages and Execution Environments
○ To develop a tool, Speconnector, to analyse and perform Spectre independent of the target language and execution environment

Amirkabir University of Technology (Tehran Polytechnic)   **Tehran, Iran**
Teaching Assistant   *Sep. 2015–Jan.2018*
To help running various modules in the Department of Computer Engineering

University of Kurdistan   **Sanandaj, Iran**
Teaching Assistant   *Sep. 2012–May.2015*
To help running various modules in the Department of Computer Engineering

Certificates, Publications, and Presentations

Certificates
Linux Foundation
○ Developing Secure Software (LFD121), 2024
○ Security and the Linux Kernel (LFD441), 2024
○ Linux Kernel Internals and Development (LFD420), 2023
○ A Beginner's Guide to Linux Kernel Development (LFD103), 2023
○ Open Source Licensing Basics for Software Developers (LFC191), 2023

Publications
Notable Projects
○ A. Naseredini, M. Berger, M. Sammartino, S. Xiong, "ALARM: Active LeArning
of Rowhammer Mitigations", Hardware and Architectural Support for Security and Privacy (HASP) 2022, October 1, 2022 – co-located with MICRO 2022
○ A. Naseredini, S. Gast, M. Schwarzl, P. Bernardo, A. Smajic, C. Canella, M. Berger, D. Gruss, "Systematic Analysis of Programming Languages and Their Execution Environments for Spectre Attacks", 8th International Conference on Information Systems Security and Privacy (ICISSP2022), February 2022

Presentations
Notable Projects
○ "ALARM: Active LeArning of Rowhammer Mitigations". Presented at the Informatics department, King's College London, UK, March 2023
○ "Systematic Analysis of Programming Languages and Their Execution Environments for Spectre Attacks". Presented at the Computer Science department, University College London (UCL), UK, February 2022

Skills

- Debian based Linux
- C/C++
- Rust
- Haskell
- Jira
- Metasploit
- Nmap
- LaTeX
- Git
- Python
- Java
- Bash
- Coverity
- Wireshark
- Tenable Nessus
- Public Speaking

Membership and Services

- Student Volunteer at ECOOP and Curry-On 2019
- Student Volunteer at PLDI 2020

Languages

Kurdish: Native

Persian: Native

English: Full Professional

Arabic: Elementary

Hobbies

- Running
- Walking
- Rubik Solving
- Physical Fitness
- Swimming
- Listening to Music
- Reading
- Sudoku Solving
- Volleyball
- Football