Amir Naseredini

Senior CPU Engineer at Huawei Technologies R&D, UK
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Interests

- Open Source Software
- Rowhammer Attack
- Vulnerability Analysis
- Secure Information Flow
- Programming Languages
- Architecture & Microarchitecture
- Microarchitectural Attacks
- Vulnerability Patching
- Formal Security
- Linux Kernel

Experience

Main

Huawei Technologies R&D **UK**
Senior CPU Engineer *July 2024–Current*
- To analyse product architectures and microarchitectures in order to design solutions for optimisations

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

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 1^{st} Student Award, in the Computer Engineering and Information Technology Department with overall GPA of 92.35%

Awards, Certificates, Publications, and Presentations

Awards

Notable Awards

- Awarded with the Star of Cambridge by Huawei Technologies Research & Development UK for high impact deliveries, 2025
- Awarded with the School of Engineering and Informatics' Fully-Funded Scholarship by the University of Sussex, 2018
- Ranked #2 in the MSc National Entrance Exam in Iran (Having my BSc GPA Considered), 2015
- Selected as a Talented Student, Two Times in a Row at the University of Kurdistan, 2013 to 2015

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
- Perfetto
- Jira
- Metasploit
- Nmap
- LaTeX
- Git
- Python
- Java
- Bash
- Simpleperf
- 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