OMID BAZANGANI
Embedded System Engineer
Nijmegen, Netherlands
Mob: +31 (064) 292-3519 | omid.bazangani@gmail.com | LinkedIn Profile

---

PROFILE

I am an energetic, ambitious Embedded Software Engineer with a lot of passion for my expertise. As a master's degree graduate with 9 years of experience within the industries, I am self-motivated and have an eye for details with good problem-solving skills. I enjoy a lot to work with other people as I am kind with a lot of sense of humor while serious about work.

Skills

- ✓ Embedded system hardware Design
- ✓ Embedded system software Design
- ✓ Linux (Lpic1 Level)
- ✓ RTOS (Free RTOS)
- ✓ Embedded C
- ✓ Python
- ✓ LabVIEW

- ✓ Assembly Cortex-M
- ✓ C++ Qt Framework
- ✓ QEMU
- ✓ Machine Learning
- ✓ ARM Low-Level Debugging with GDB
- ✓ Git
- ✓ MISRA C, CERT

WORK EXPERIENCE

➢ **September 2020 – Present, Radboud University, PhD Candidate on Embedded System Security (side-channel Analysis), (Nijmegen – Netherlands).**

PhD Research: "Side-channel simulator design based on Microarchitectural features of ARM microcontrollers (Cortex-M series)". Currently, I am working on extracting Microarchitectural features of the cortex-m microcontroller to create a general solution for side-channel simulators. Microarchitectural features are related to the instructions, pipeline, operand values, memory access, ALU computation and etc. During this research I got experiences in cortex-m architectures, assembly coding, debugging through GDB in depth, J-Trace, emulating arm microcontroller with QEMU, and implementing crypto algorithm firmware (embedded C) on cortex-m series.

➢ **June 2015 – September 2018 (39 Month), SRC Company, Senior Embedded Software Engineer, (Mashhad – Iran) Senior Embedded System Engineer(39months) and one year as Technical Manager of a Team with 7 Engineers.** Design, Implement and produce Sepahtan Project (great national Project in Iran, AVL (Automatic Vehicle Locating)) base on ARM-CortexM4 Microcontroller.

Experiences: Embedded software Architecture, Embedded Hardware Design with considering mass production issue, Embedded Software Implementation (C/C++, Python), TCP, FTP, FOTA, CAN, FMS-V3, AUTOSAR, CMSIS, MISRA C, git, IAR-IDE, Arm Cortex M0+, Arm Cortex-M4, Arm Cortex-A (Raspberry Pi), Embedded Software Static and Dynamic Test, Kali Linux (up to LPIC-1).

> **Juley 2012 - June 2015 (35Month), Freelance, Embedded Software Engineer,**
> **(Mashhad-Iran) Work as Contractor (part-time job) with some company**

✓ ARM Robot with 5DOF (Degrees of Freedom), Geshmvoltage company, Tehran-Iran
✓ Creates UART, SPI and LCD Libraries on ARM Cortex-M3 (LPC1768) for HPK Company, Mashhad-Iran
✓ Design and Implement System Test for Windshield Wiper Motor, IKC company, Sabzevar-Iran
✓ Design and produce Barkhausen Noise Test Setup for Non-Invasive metal test laboratory in Sadjad University of Technology, Mashhad-Iran
✓ Design and Implement Condition Monitoring System for the Electrical Machines Laboratory, Hakim sabzevari university, Sabzevar-Iran

Experiences: Qt Framework, Labview. RTX-RTOS, Free-RTOS, Arm Cortex-M3, Servo motor, Stepper Motor, Modbus, VHDL, ISE IDE, GPS, GSM.

> **January 2010 – November 2012 (34Month), Talayeh Ind, Embedded System Engineer,** **(Mashhad-Iran) Electronic and Automation Engineer part-time**

✓ Design and produce a Prototype AMR Water meter with ARM Microcontroller M0+
✓ Implement a wireless Monitoring System for Plastic Injection Machine based on ARM7 microcontroller
✓ Design and Implement a Driver for Driving some kind of Machinery base on ARM7 AT91SAM7x256
✓ Monitoring & control System for Hydraulic Press (Base AT91SAM7x256 & LabVIEW)

Experiences: Embedded system Peripherals (SPI, I2C, UART, TIMER, PWM, etc), Arm Cortex-M0 Architecture, Keil-UVision IDE, Arm7 microcontroller, Analogue Circuit Design, Bluetooth.

EDUCATION

> **2020-Continue, Radboud University, PhD on Embedded System Security (side-channel Simulators)** (Nijmegen-Netherlands)

> **2019-2020, University of Grenoble INP (Esisar), Master in Embedded System Security, Safety and Integrity** (Valence-France)

Internship: "Machine Learning for IoT Localization Security" keywords: Python, Machine learning, UWB, IoT, Artificial Neural Network, Security.
February2020-July2020
Innovation project: "Image Sensor Interface for Nanosatellite", based on SOC. The University Space Center of Grenoble (CSUG) keywords: FPGA, SOC, ZYNC, VIVADO, VHDL.
September 2019 – December 2019

> **2009-2012, Sadjad University of Technology, Bachelor in Telecommunication Technology,** (Mashhad-Iran)
> **Thesis title:** "Design and Implement a BCI (Brain Computer Interface) System to controlling a Robotic-Arm". Keywords: EEG signal, ARM Cortex-M3, Motor cortex, LabView.

> **2007-2009 Hakim Sabzevari University, Associated degree in Electronic & Electrical Engineering,** (Sabzevar-Iran)