

# Hamid Najafi

## Embedded System Specialist

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### ABOUT ME

Embedded System Specialist with established experience in the Industrial IoT and Healthcare Industry.

This CV is a summary of +5 years of my practical experience developing embedded software, hardware, and Internet of Things (IoT) products and solutions for academic and business use.

I enjoy working in collaborative settings where ideas are discussed and personal experiences are shared. In my senior role, I have worked as a team leader, cooperating with others to achieve optimal results.

I was involved in the production of a variety of products, and I hope they expand swiftly and perhaps improve our quality of life.

My LinkedIn and online portfolio has further information about me. ([Click Here](#))

### WORK EXPERIENCE

#### Embedded System Developer

Feb 2021 - Present

##### C1Tech Group

- Design, Development, and Implementation of AI-Based Control Panel for Operating Theatre in Hospitals and Cleanrooms with Modular Technology
- Ceiling & Surgical Lights, AHU with Laminar Air Flow, Voice Command, VoIP, Music, Paging, Room Temp/Humidity/Pressure, HEPA Filter & Isolated Power Panel Monitoring, etc.
- Overall, 84 operating rooms and 41 sections of cleanrooms are automated in various locations across the country.

#### Embedded System Developer

Jun 2019 - Present

##### FUMP-ICT

- Design, Development, and Implementation of Green Campus Initiative in Ferdowsi University of Mashhad.
- Power & Water Metering, 2D & 3D Web GIS (Positioning), Plants Irrigation, Smart Transportation (Buses, Cars, and Bikes).

#### DevOps Specialist

Apr 2020 - Feb 2021

##### Department of Education (Khorasan Razavi, Iran)

Online Learning Management System:

- Virtual Classes (Online Rooms)
- Lectures Management (Assignments, Examinations, Grade Books)
- School Management (Reports and Analytics of Users, Lectures, and Classes)

#### Embedded System Developer

Jan 2016 - Dec 2020

##### Ferdowsi University of Mashhad

- Incorporating student initiatives and various projects in university labs as part-time job.
- Described in EDUCATIONAL EXPERIENCE section (Page 2).

#### Lecturer & Teaching Assistant

Sep 2017 - May 2020

##### Ferdowsi University of Mashhad

Lecturer of Internet of Things Basics (with [Dr.Sedaghat](#))

Teaching Assistant of Computer Foundation and Programming ([Dr.Asadi](#)), Computer Networking ([Dr.Mohajezadeh](#)), Network Security ([Dr.Ghaemi](#)), and Wireless Networks ([Dr.Hosseini](#))

- Designing projects and assignments for students
- Providing support for helping students in their issues
- Scoring and marking assignments

#### Internship - ICT Network Technician

Jun 2018 - Aug 2018

##### HiWeb (Vodafone Iran Partner)

- Router Switch Configuration
- 3G/4G network driver test using TEMS™ Network Testing Portfolio
- Network monitoring using Zabbix
- Several tasks of passive network engineer

### Educations

#### • Master of Science, 2021 - Present

IAUM, Computer Networks

GPA: 19.36/20

Master's thesis:

Design & Evaluation of a Tightly Coupled UWB/INS/GIS Indoor Positioning System  
Applying Machine Learning Methods in CloudIoT.

#### • Bachelor of Science, 2015 - 2020

FUM, Computer System Architecture

GPA: 16.39/20

Bachelor's project:

Development of Cryptocurrency Mining Rig  
Energy Monitoring System.

#### • Diploma, 2011 - 2014

ATM, Mathematics and Physics

GPA: 19.76/20

### Skills

#### Operating Systems

Linux, Yocto, Buildroot, and RTOS

Familiar with U-Boot, and EDK II

#### Programming Languages

Experienced in C/C++, C#, Bash Scripting

Familiar With Python, and Qt

#### Printed Circuit Board (PCB)

Altium Designer, SPICE, DC Circuits

Expert in PCBA (Soldering) & Prototyping

#### Guidelines

Scrum, DFX, DFM, DFA, DFT, EMC/EMI/ESD

#### MCU, SBC, and SoC

STM32 and ESP32 MCUs, NVIDIA Jetson, Raspberry Pi, and Beagle Bone SBCs

#### Wireless Communications

Wi-Fi, Bluetooth, Zigbee, UWB, LoRaWAN, and Mesh Networking

#### Wired Communications

Ethernet, USB, GPIO, UART, SPI, I2C, I2S, ...  
RS232, RS485, KNX, CAN, Modbus, ...

#### DevOps and SRE

Experienced in Git, CI/CD, Containers and Orchestration (Docker), Cloud Services, Automation tools, Metrics, Tracing and Logging Systems

## EDUCATIONAL EXPERIENCE

Embedded System Developer - Development of Cryptocurrency Mining Rig Energy Monitoring System Jan 2020 - Dec 2020

### FUM IP-PBX Lab

This system comprises electric energy meter and website that shows data and statistics of energy consumption during cryptocurrency mining.  
Another version of this system is created to control home appliances power consumption using the Wi-Fi mesh network.

Embedded System Developer - Operating Room UVC Disinfection System May 2020 - Apr 2020

### FUM Robotics Lab

This robot was created to clean hospital areas using high-power 360-degree UVC lights.  
The robots microprocessor, determines the duration of the UVC radiation based on the size of the room.

Designing and Optimizing of FUM Campus Wi-Fi Networks Jun 2019 - Feb 2020

### FUM Information & Communication Technology Center (ICT)

The FUM ICT Center launched this initiative in response to the numerous issues with the high-density Wi-Fi network that have been observed, including network bandwidth issues, signal collection issues, and a lack of coverage.  
This project's primary tasks were designing network CAD plan, access point relocation, network settings adjustment, and site surveys.

Executive Committee Aug 2019 - Aug 2019

### Ferdowsi University of Mashhad

- 16th International Information Security and Cryptology Conference
- Speaker at Information Security and Cryptology Village

Embedded System Developer - IoT Hotel Management System Jun 2017 - Jul 2019

### Co-Founder at Ashian Startup

This startup's major objectives are a fully IoT-based hotel administration system and improved accommodations for its visitors.  
Guests can submit requests to the hotel desk, order goods, request cleaning, control lights, and more using the interior panels.

Embedded System Developer - IoT Gateway Jan 2019 - May 2019

### FUM IoT Lab

All-in-One Gateway, which allows for a variety of interactions between the nodes and the server. Users, preferences, network nodes, and ultimately data transmitted over networks are all managed on the device's control page.

- Specifications: STM32F7, GSM, Wi-Fi, Ethernet, Bluetooth, Zigbee, LoRa, RF, and SD Card

Embedded System Developer - IoT Call and SMS module Oct 2018 - Feb 2019

### IoT based Call and SMS module

This device call a phone number and send individual or group text messages.  
The system contains hardware circuits and admin panel (website) for SMS scheduling and auto calling and also message planner. It has the ability to save user contacts to the internal flash memory.

Application Developer - Monitoring of Burnt Chandelier Lights Jan 2016 - May 2017

### FUM Pattern Recognition Lab

The goal of this endeavor is to locate any burned-out lights inside the fixtures.  
The core of this system is to measure how much total current is being used and send that data to the operator's wristwatch. The watch collects data and enters it on the website.

## Languages

English

Professional working proficiency

German

Elementary proficiency

Persian

Native

## Certifications

- Building Automation using KNX Protocol - Feb 2018 from "Iran Technical & Vocational Training"
- PCB Designing - Dec 2017 from "Ferdowsi University of Mashhad College"
- GNU/Linux Foundation - Apr 2017 from "Ferdowsi University of Mashhad Linux User Group Association"

## Soft Skills

- Excellent leadership, communication and time management abilities
- Strong cooperation and partnership skills in job environment
- Outstanding planning and multi-tasking abilities
- Proven ability to work creatively along with problem-solving skills
- Talented to acquire new skills and develop team members
- Adaptable, diligent and capable of working autonomously when necessary
- Remarkable to make choices in difficult situations

Tehran  
25/03/2023

