

# Hamid Najafi

## Embedded System Specialist

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### ABOUT ME

Embedded System Specialist with established experience in the industrial IoT and healthcare industries.

Skilled in PCB Designing, Single-Board Computers and Microcontrollers, Communication Protocols, Electrical CAD & Panel alongside Linux, Embedded Linux, DevOps, and Programming.

This CV summarizes my seven years of practical experience in software, hardware, and IoT solution development for academic and commercial applications. For more information, please visit [my personal website](#).

If you are looking for a dedicated Embedded System Developer with a great technical background, exceptional problem-solving skills, and a collaborative mindset, please don't hesitate to connect with me.

### WORK EXPERIENCE

Embedded System Design Specialist Feb 2021 - Present  
[C1Tech Group](#)

- Product Manager
- Design, Development, and Implementation of a Smart Modular Control Panel for Operating Rooms in Hospitals and Cleanrooms.
- Executive for numerous projects in various locations across the country.

Hardware Development Manager Jun 2019 - Present  
[FUMP-ICT](#)

- Shareholder and Vice Chairman
- Affiliated with Ferdowsi University of Mashhad Pishgaman Holding
- Launched Mashhad Dev Center Office with lead Director and recruited and managed new team of 8 employees.

Product Manager & DevOps Engineer Apr 2020 - Feb 2021  
[Department of Education \(Khorasan Razavi, Iran\)](#)

- This platform is made up of virtual classes (online room), lectures management (for assignments, surveys, and examinations), and school management (management of users, lectures, and classes) and more.

Embedded System Developer Jan 2016 - Dec 2020  
Ferdowsi University of Mashhad

- Incorporating student initiatives and various projects in university labs as part-time work.
- Described in EDUCATIONAL EXPERIENCE section.

Lecturer & Teaching Assistant Sep 2017 - May 2020  
Ferdowsi University of Mashhad  
Lecturer of Internet of Things Basics Course (with [Dr.Sedaghat](#))

Teaching Assistant of Computer Foundation and Programming ([Dr.Asadi](#)), Computer Networking ([Dr.Mohajerzadeh](#)), 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 \(Vodafone Iran Partner\)](#)

- 3G/4G network driver test using TEMS™ Network Testing Portfolio
- Network monitoring using Zabbix
- Several tasks of passive network engineer
- Worked with Mikrotik RouterOS

### 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 & Distros , YOCTO, Buildroot, EDK2

Programming Languages

Experienced in C/C++, C#, Bash Scripting  
Familiar With Python, and Qt

Printed Circuit Board (PCB)

Experienced in Altium Designer  
Expert in PCBA (SMD, DIP) & Debugging

MCU and SBC

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, UART, SPI, I<sup>2</sup>C, I<sup>2</sup>S, ...  
RS232, RS485, KNX, CAN, Modbus, ...

DevOps and SRE

Experienced in Git, CI/CD, Containers and Orchestration (Docker), HTTP Servers (Traefik, Nginx), Automation tools, Metrics, Tracing (Grafana, Prometheus), 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 a tangible tool to gauge electric energy usage factors and smartphone software that shows data and statistics of energy consumption during cryptocurrency mining. Another version of this system is created to control home appliances' usage 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 robot's microprocessor, determines the duration of the UVC radiation based on the size of the room.

Designing and Optimizing of Campus LoRaWAN & 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 of the 16th International ISC Aug 2019 - Aug 2019

### Ferdowsi University of Mashhad

- Information Security and Cryptology Conference
- Speaker at Information Security and Cryptology Village

Lead Project Manager - IoT Hotel Management System Jun 2017 - Jul 2019

### Ashian Startup - Co-Founder

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.

- Specs: STM32F7 Core, RTC, SD Card, USB, 2G, LoRa, Zigbee, Ethernet, Wi-Fi, CAN, nRF

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 a 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



Working proficiency

Persian



Native

## Certifications

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

## Strengths

- 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