Hamid Najafi

Embedded System Specialist

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ABOUT ME

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

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 portfolio 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 contact me.

WORK EXPERIENCE

Embedded System Developer — Feb 2021 - Present

C1Tech Group

- Design, Development, and Implementation of Smart Modular Control Panel for Operating Rooms in Hospitals and Cleanrooms.
- Executive for numerous projects 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.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)

- 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

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 Servers, 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 Managment 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"

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