Mohammad Vatandoost Silab   **Embedded Software Engineer**

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Date of birth: 19/08/1995

Summary

I have more than 6 years experience in Embedded, Desktop and Back-End Software development for small and medium Enterprises. I participate in all phases of the software development life cycle. I mainly work with C/C++, Qt framework, Golang and Python. The most of my working experience is in a team, I enjoy to help my team to solve problems.

Experience

Software Engineer   Fanap-infra.ir
Aug 2020 – present

Fannap-infra is Developing multiple Software projects. I am working in Behnama projects team. Behnama is a video surveillance software.
Behnama is built on microservice architecture, it contains RTSP client, recording, web-app, webrtc, API, analyzer, Kafka, ONVIF, PostgressDB and influxDB services.

- Writing a WebRTC player backend for playing live and records. It receives commands and sends records list and metadata by WebRTC data channel - Go
- Using GRPC for communication between microservices – Go, C++ and Python
- Receiving RTSP(IP Camera stream) by ffmpeg library – C/C++
- Using Kafka for streaming media and Metadata packets – Go, C++ and Python
- Creating recording file structure for minimizing head movement of HDD – Go
- Adding motion detection (by OpenCV) to analyzer service – Python
- Dockerise Stream and RTSP services

Software Engineer   3ddreams.ir
Dec 2019 – Jul 2020 (8 months)

3DDreams build the industry 3D printer Devices. I developed server and clinet software for the device.The server software is running in a raspberry pi inside the device and the client software is a cross platform app that run in a desktop computer.

- Adding unit test with gTest to client and server project – C++
- Implementing UI of Client project by Qml
- Socket programming and using protobuf for messages structure – C++
- Using Serial Port for Communication with actuator – C++.

Embedded Software Engineer   raiwan.ir
Nov 2017 – OCT 2019 (2 years)

Raiwan works on designing and building IoT and industrial manufacturing and labratory devices.

I developed softwars for industrial devices. I designed and implemented Algorithms for different use cases, such as: Oil industry, IoT, Polymer industry and civil industry.

- Receiving data from Socket at rate 96 MBit, then simultaneously Decode, Decrypt(Cryptopp library) and Mux(ffmpeg library) H.264 and audio(PCM to AAC) frames – C/C++
- Writing a Linux USB Driver - C
- Working with RS485 mode bus protocol in industrial devices – C++
- Developing Android app that connect to modules by BLE and OTG, It receives files and send user commands - Java

FreeLancer
Feb 2016 – Sep 2017 (1 year and 8 months)

I worked with multiple start ups to build theirs MVP products.

- Receiving sensors data in real time from serial port and plot them by QtChart – C++
- Preprocessing data by FFT and filters like Butterworth and averaging data chunk.
- Converting matlab code of constumers to C++ code.
- Using UART and I2C protocol in Orange pi and Raspberry pi.
- Designing relational data base.
- Crawling websites with Selenium - Java

Student Researcher   KNTU Aras robotic Lab
Nov 2014 – Jan 2016 (1 year and 3 months)

KNTU Aras robotic Lab research on UGV and MAV. I designed and programmed robot's Embedded system.

- ARM Microcontroller(Stm32 series) and AVR programming (Used I2C, UART, SPI, PWM, USB and ADC peripherals).
- PCB Design of Embedded systems.
- Working with Different sensors and Electronics modules.

Education

- University of Tehran, MS, Computer Software Engineering,   (2019 - 2021) (GPA: 3.5/4)
- K. N. Toosi University of Technology , BS, Electronic Engineering, (2013 - 2018) (GPA: 3.3/4)

AWARDS

- Aut cup 2016
  Our Team achieved the second place in Rescue robots competition.
- IRAN Open 2015 robotic competition
  Our Team achieved the first place in diminer robots competition.
- Chess Competition
  I achieved the first place in chess competition between high schools students

Teaching

Embedded software development course in Robotic lab of K. N. Toosi University of Technology

Skills

C/C++ - Qt - Golang - Unit Testing – Message Queue(Kafka) – GRPC - Cmake - Protobuf -
Linux Driver development –Embedded Systems – Python - DataBase Design –Java -
Socket Programming – Onvif - MySQL, Sqlite, PostgresSQL and influxdb – PID – Docker -
RS485, RS232, I2C and UART Protocols - STM32(ARM Cortex-M) - Git

Language

- Persian (Native)
- English (Professional working proficiency)
- Azerbaijani (Professional working proficiency)

Interests

- Soccer
- Tech Articles
- Movies