

Fakruddin Vohra (Embedded Firmware Engineer)

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TECHNICAL SKILLS

Software skills(~ 3 year experience)

- **Experience with PIC(32MX,32MK , ATSAMS70 series)(MPLAB IDE,IPE) STM32(f0,h7,f4) and AX(M0+) microcontrollers and SoC .**
- Protocols: UART, SPI, I2C, USB, PMP,EBI,QSPI,RS232,LCC(low cost controller less)(EBI+DMA)(LCD interface with Microcontroller) and RS485.
- Experience in developing bitbanging drivers of SPI and Parallel interfaces like EBI,PMP.
- Experience in working with **JIRA** ticketing systems and **BITBUCKET** git code management.
- Experience with LCD controllers SSD1963 3.5” and 4.3” displays 16bpp and 24bpp.
- **C programming** & debugging in **MPLAB,KEIL and AX code block** of ARM based microcontrollers
- **Bootloader , Firmware** design and **device driver** development.
- **Introductory experience in Linux environment, python and C++.**
- Experience in development with Raspberry pi boards and Arduino nano.
- ARM v6_M instruction set assembly language debug.
- LOGO PLC and VFD programming & wiring, MATLAB.

Hardware design skills(1 year experience)

- **Hardware,Schematic and PCB design** in ALTIUM designer.
- BOM & GERBER generation, Product design & Design verification.
- Knowledge in High-speed design and impedance matching.
- PCB testing and quick prototyping (Development boards)
- Experience with instruments such as DSO, Sampling multimeter, Programmable power supply, Spectrum analyzer etc.

Miscellaneous

- Analysis , feasibility test , risk assessment and review of Hardware and software design
- Experience in handling international clients and providing timely updates.
- MS Office (Word, PowerPoint, Excel).

INDUSTRIAL EXPERIENCE(2 years + 1 year full time internship(Masters))

- **Firmware engineer at L&T technology and Services from June-2021 to present(1 year).**
- Former **Embedded software engineer** and PCB design engineer at **RELCON SYSTEMS** from **Aug 2020-June-2021(~1year)(Total 1.9 years).**
- **Post graduate internship** as an **Embedded developer** for **1 year** at **RELCON SYSTEMS (Aug 2019-July 2020) .**
- **Graduate internship** at NIKKA instrument as a VFD drive and PLC programmer(1year).

PROJECTS

L&T TECHNOLOGY SERVICES(1 year)

- **SPA control box and Panel Porting and Development**
 - Implementation of a LCD controller logic using only MCU(ATSAMS70) with frame buffer, parallel interface (EBI) and DMA.
 - Star of the Month for January 22 for excellent performance.
 - Porting of firmware and bootloader based on PIC32MX series to PIC32MK and ATSAM series microcontrollers for peripherals like touch(Resistive)(ADC),display controllers(PMP),422,485,SPI Flash,EEPROM and wireless battery charging.
 - Development of driver of display controller SSD1963 interface with PIC32MX and PIC32MK microcontrollers for 320*240 display.
 - JIRA Ticketing system and Bitbucket git code management.

RELCON SYSTEMS(1.9 year)

- **Mobile Dispensary Unit:**
 - PCB design, hardware debugging of a (N58)LTE module with GPS and GPRS capability and RS 232, USB protocol with STM32H7.
 - Support on firmware for implementing memory mapped mode on QSPI FLASH and interface with ESP32 WROOM.
- **GPRS/GSM module porting:**
 - Schematic and PCB design and firmware porting/design for N58 module with STM controller for UART communications over 485 and TTL voltage levels.
- **Project 1(ME Dissertation & Internship):** Low power wireless NFC Reader for petrol pump dispenser
Project Summary: PCB design and software (bootloader and firmware) development of a wireless NFC reader optimized for low power and compact design. Using ST microelectronics NFC chip and ON semiconductor SoC (M0+) (Sub-Gigahertz Transceiver).
Period: Aug 2019- July 2020
- **Project 2(ME):** Phase control of TRIAC using 89c51 (Lamp dimmer Circuit).

NIKKA INSTRUMENTATION(1 year internship)

- **Project 2(BE):** Speed control of induction motor through PLC and AC drive (Automated conveyor application).

Period: March 2017 – March 2018

Project Summary

V/f method is used for controlling the speed of an induction motor through PLC and AC drive.

EDUCATION

Qualification	Year of passing	School/College	Percentage /CGPA	University /Board
ME(Microprocessor system and application)	2020	MSU(Baroda)	66%	MSU
BE (Electrical)	2018	Parul Institute of Engineering and Technology	8.13	GTU
12th	2014	Bright Day School	78.2	GSEB
10th	2012	Rajashree Vidya Mandir	95	CBSE

ACHIEVEMENTS

- Star of the month for JAN 22 for contribution in fast development of SSD1963 Driver in L&T Technology Services
- GATE qualified with AIR 12100 and marks 33.67 in 2018.
- GATE qualified with AIR 4100 and marks 65 in 2019.
- Topped my class in 10th with 10/10 grade points.

PERSONAL DETAILS

- DOB: December 17, 1996
- Nationality: India
- Known languages: Hindi, English, Gujarati
- Linkedin profile link : <https://www.linkedin.com/in/fakruddin-vohra-239998157>

DECLARATION

I, Fakruddin Vohra, hereby declare that the information contained herein is true and correct to the best of my knowledge and belief.