Personal Information

Farogh Iftekhar

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About Me

I'm a technology enthusiast and a polymath. I love solving problems by using knowledge from every corner. I have an insight into a product life-cycle ranging from designing a prototype to testing and deployment of an embedded IoT product. I'm working towards making a meaningful contribution in the field of technology that can help the greater good. I'm currently enrolled in a Master's in Embedded Systems design at the University of Applied Science, Bremerhaven.

work Experience

01-07-2022 – Current

Embedded Systems Engineer- FactoryPuls GmbH, Hamburg (Germany) | Part-time

- I am responsible for writing IoT application for smart manufacturing and UDI digitalisations.
- Designed the IoT architecture to connect the Edge and the cloud.
- I'm developing IoT software, implementing business logics and code optimizations.
- Responsible for implementing hardware solutions based on business requirements.

01-04-2021 – 15-03-2022

Technical Project Manager- Smart Joules Pvt Ltd, New Delhi (India)

- Led a product team of **20 developers** and was responsible for the product strategy, product vision & product usability. Brought clarity into the product and bridged the gap between the product team & the stakeholders.
- Defined short-term & long-term roadmap, translated it into manageable product backlogs. Maintained & prioritized backlogs, defined user story, features, and definition of done. Managed sprints, daily stand-up, sprint review, retrospective & product releases. Released **9 new** features into **DeJoule™** within 2 quarters.
- I was responsible for making technical decisions related to IoT architecture and hardware, managed the embedded firmware & hardware team, managed the hardware manufacturing and vendor relations.

02-01-2017 - 31-03-2021

Sr. Embedded System Engineer (Lead)- Smart Joules Pvt Ltd, New Delhi (India)

- Led a team of 5 embedded developers, I was responsible for designing, developing reliable, affordable hardware, and maintaining the production and quality of products.
- Engineered, deployed, and managed Smart building energy management controllers deployed across **20+ sites in India**. Rolled out 3 versions of **DeJoule™** BMS controllers. The device can execute complex time series algorithm in real-time, runs decentralized PID software which observes and control valves and actuators to optimize operations of the HVAC system.
- The controllers are designed to self-diagnose the faults and send logs to the Grafana dashboard. DQI Increased from **70% to 99%** with the help of better logging & monitoring services. Introduced hardware watchdog that further improved the data quality.
- Setup the production pipeline for the controllers and **reduced** the cost by **15-20%** by better component selection and vendor management and relations.
- Drafted different policies for the company with the CEO and other colleagues. Conducted the placement drives in different colleges of India, **interviewed 200+** people for different roles, and hired the best minds.

Education

01-04-2022 - Pursuing

Master's degree, Embedded Systems Design (ESD)

Bremerhaven University of Applied Science (Germany)

16-08-2012 - 15-06-2016

Bachelor's degree, Applied Electronics and Instrumentations (AEI)

Dehradun Institute of technology, Dehradun (India)

01-11-2018 - 29-03-2019

Advance High-Speed PCB design

Fedevel Academy – Learned to design high-speed PCB design, Schematics, and BOM using Altium CAD tool. **(View Certificate)**

Personal Skills

Technical

- Embedded Architecture Design, Analog, Digital, and Mix circuit design.
- Power Supply Design DC/DC, Power Budgeting, EMI/EMC
- **CAD Tools:** Altium, Eagle
- **Language:** Embedded C, Python
- **8/16/32-Microcontrollers:** ST Microelectronics, Atmel
- **Low-level communications protocols**: I2C, SPI, UART, RS485
- **Wireless Chip Interface:** WIFI (ESP32, ESP8266, CC3220S), BLE (Nordic nRF52840), LoRA, GSM (SIM 900)
- Board bring-up, testing and debugging, expert in SMD hand Soldering, Product Documentation.
- Basic familiarity with Node Js, AWS IoT, Lambda, **IoT-Stack** (Socket, MQTT), **Front-End** (HTML, CSS), Open-CV, PYQT, SQLite3, Git, and Linux.

Commercial Projects

- **Medical Health Device**- Designed a wearable device to monitor SPO2, Heart rate, and body temperature. Used the Nordic BLE chip, designed the antenna, and other optical sensors from Maxim.
- **LoRa-RS485 bridge**- Designed a LoRa bridge hardware to read data from an electricity meter through RS485 and send the data to the open LoRa gateway.
- **IoT gateway**- Designed a gateway using ESP32 & Nordic BLE chip.

Achievements

- Build an IoT product called **DeJoule™** from scratch and build a product team. Deployed 600+ IoT controllers onto different clients' sites which have already saved around 74 thousand Tonnes of C02.
- Contributed to setting-up the Joule Lab program to train university students with the latest technology of the industry.
- One of the Winners of a Hackathon organized by EESL, Developed and pitched the solution for the EV charging station.