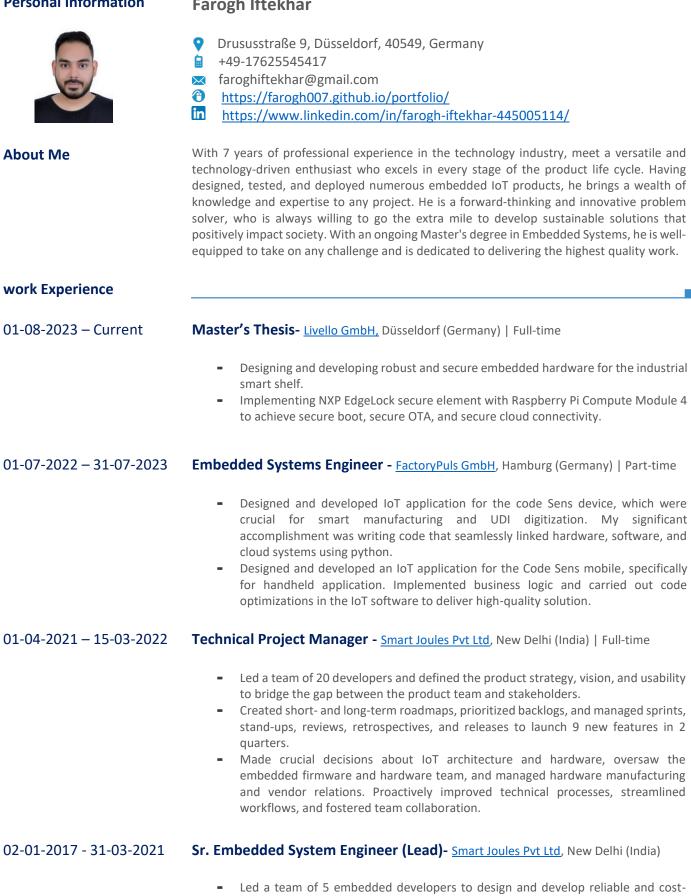
Personal Information

Farogh Iftekhar



vendor management. Engineered, deployed, and managed Smart building energy management controllers across 20+ sites in India. Rolled out 3 versions of DeJoule[™] BMS controllers, leveraging a decentralized PID software architecture that runs on an SBC and STM32 microcontroller to optimize HVAC system operations through realtime execution of complex time series algorithms.

effective hardware, reducing costs by 15-20% through component selection and

	 Performed PCB layout design using Altium to ensure high-quality and reliable hardware production. Enabled self-diagnostic capabilities in the controllers, allowing for fault identification and diagnosis with logging capabilities on the Grafana dashboard to improve data quality, increasing DQI from 70% to 99%.
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 the Altium CAD tool. (View Certificate)
Projects & Skills	
Technical Skills	 Expert in embedded systems design, including architecture, analog and digital circuit design, power supply design (DC/DC, power budgeting, EMI/EMC), and board layout using Altium and Kikad CAD tools. Additionally, skilled in SMD hand soldering and product documentation. Proficient in low-level communications protocols such as I2C, SPI, UART, and RS485, as well as wireless chip interfaces like WIFI (ESP32, ESP8266, CC3220S), BLE (Nordic nRF52840), LoRa, and GSM (SIM 900). Proficient in using Python for developing IoT applications and programming 8/16/32-bit microcontrollers from ST Microelectronics and Atmel, utilizing embedded C for firmware development, board bring-up, testing, and debugging. Familiarity with relevant technologies like Flutter, Node Js, AWS IoT, Lambda, IoT-Stack (Socket, MQTT), Front-End (HTML, CSS), Open-CV, PYQT, SQLite3, Git, and Linux, which can be leveraged to develop and deploy efficient and reliable embedded systems.
Other Projects	 As part of my master's program, I collaborated on a group project to develop an autonomous mobile bot. My responsibilities included designing the application software for data communication between the Bot and a mobile app. I also contributed to the design of the App itself using Flutter. In this project, we used MQTT and Socket to enable real-time communication. Developed a wearable medical device for continuous monitoring of SPO2, heart rate, and body temperature. Utilized the Nordic BLE chip, designed chip antenna, and optical sensors from Maxim to ensure accurate readings. Designed and implemented a LoRa-RS485 bridge hardware for real-time data transmission from an electricity meter. Built to integrate seamlessly with an open LoRa gateway, this solution provides reliable, low-cost communication options for remote monitoring and control applications.
Achievements	 I have accomplished several notable achievements throughout my career in the field of IoT and embedded systems. I successfully built an IoT product named DeJouleTM from the ground up and led a product team to deploy over 600 IoT controllers on various clients' sites. These controllers have already helped to save approximately 74 thousand tonnes of CO2 emissions. Additionally, I played a key role in establishing the Joule Lab program, aimed at training university students with the latest industry technologies. Furthermore, I demonstrated my skills and knowledge in a hackathon organized by EESL, which led to me being named one of the winners. During the competition, I developed and pitched a solution for an EV charging station, highlighting my ability to innovate and provide practical solutions in the realm of IoT, embedded systems.