

# Shreyas Manoj Kotian

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"Success is not final, failure is not fatal: It is the courage to continue that counts." – Winston Churchill

## Profile

With a solid foundation in Embedded Systems Engineering and practical experience in firmware development, I am skilled in designing, implementing, and optimizing embedded solutions. Known for my strong analytical abilities and problem-solving skills, I am committed to delivering high-quality, precise solutions. My collaborative approach and clear communication skills make me a valuable team player, driven to contribute to innovative advancements in embedded technology.

## Work Experience

01/11/2023 – 30/04/2024



**Sensirion  
Connected  
Solutions**

Berlin, Germany

### Embedded Systems / Firmware Intern

- Worked on ESP32 and STM32 chipsets
- Improvements in continuous integration and delivery by reducing build times by 50% and migrating the unit tests from C to C++;
- Implementation of an automatic validation process for Digital Signal Processing;
- Implementation and testing of MEMS device drivers for multiple platforms;
- Setting up test jigs for different connectivity situations.

01/10/2022 – 01/12/2022



**Living, Adaptive  
and Energy-  
autonomous  
Materials  
Systems**

Freiburg, Germany

### University research assistant

- Measuring voltage and current of triboelectric nanogenerator (TENG) using oscilloscope and electrometer.
- Programming using Python to automate saving and reporting data from the instruments.
- Experimental setups.

20/01/2020 – 30/09/2021



**Access  
Research Labs**  
Mangalore, India

### Systems Engineer

- I was responsible for programming systems in residential and commercial automation.
- I have also worked as a Frontend Developer for the company.

03/06/2019 – 03/07/2019



Bangalore, India

### Designing with FPGA Intern

- Designing an HDLC Framer using FPGA

## Qualifications and Trainings

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01/10/2021 – 31/03/2025



**M. Sc. in Embedded Systems Engineering (not completed)**

**University of Freiburg**

City: Freiburg im Breisgau

Country: Germany

Program not completed due to one pending module

01/07/2016 – 30/09/2020



**B. E. in Electronics and Communication Engineering**

**NMAM Institute of Technology**

City: Udupi

Country: India

Grade: 8.7/10

08/05/2017 – 08/07/2017



**Diploma in Python**

**Manipal Institute of Computer Education**

City: Udupi

Country: India

## Digital Skills

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### Software

Proficient knowledge of ESP32 (ESP-IDF) / Python / Embedded C / STM32CubeIDE

Hardware description languages (VHDL, Verilog) / C/C++ Programming

Xilinx ISE e Vivado / MATLAB/Simulink / FreeRTOS

React ecosystem: ReactJS, React Router, Redux, Typescript / Frontend (HTML, CSS, JavaScript)

Git / SQL / Java / Jira

### Hardware

Microcontroller PIC ARM / Atmega32 / STM32 CubeMX / Nordic nRF5

Microcontroller: ARM STM32 / MSP430 / Xilinx Zedboard Zynq-7000 ARM

Microcontroller programming such as Arduino, PLC, 8051 / Crestron / DSP

## Language Skills

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English	C1
German	A1

Mother tongue: Tulu

Other(s): Hindi, Kannada

## Projects

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- **Design and Implementation of A Sound-Based Environmental Monitoring System**  
[ 26/04/2022 – 25/10/2022 ]
  - To design a system to detect chainsaw sound on a low-power microcontroller (nRF52840) and then port it to a battery-free microcontroller
- **Mechanical Arm using an EEG Sensor**  
[ 01/10/2019 – 01/04/2020 ]
  - To control the motion of the mechanical arm with the help of the user's brain signals.
- **Elevator Control System Using Spartan 6 FPGA (Verilog)**
  - To demonstrate the various controls of an elevator using Xilinx tools
- **Implementation of HDLC Framer using Zed board (FPGA)**
  - Design a protocol to transmit data
- **Smart Helmet using PIC16F877 Microcontroller**
  - Accident alert with GSM and bike ignition control depending on whether the user is wearing the helmet or no
- **Smart Digital Clock using AT89S52 Microcontroller**
  - The clock which could be controlled through a cell phone through an app and displays the time on large 7 segment displays
- **Basketball Scoreboard using Atmega32**
  - Cell phone-controlled basketball scoreboard
- **Car Number Plate Detection**
  - Read number plate details from the clicked image of the car.

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### *Interests*

Curious and driven by a love for learning, I'm always looking for opportunities to grow, whether through new experiences, connecting with people, or exploring fresh ideas. Outside of my professional pursuits, I enjoy spending time in nature, hiking, and basketball. Friends and colleagues describe me as reliable, easy-going, and thoughtful—a team player who values genuine connections and thrives in collaborative environments. I believe in balancing hard work with a positive mindset, always striving to bring enthusiasm and empathy to both my work and personal life.