Parth Sanepara

+919687119944 | parthsanepara@gmail.com | parthsanepara | parthsanepara | Bengaluru, Karnataka-India

Summary

Senior Embedded Firmware Engineer with **6+ years** of experience in developing **embedded systems** and **IoT solutions**. Expertise in **firmware design** for **wireless and wired technologies** including **BLE**, **Wi-Fi**, **Ethernet**, and **Cellular IoT**. Proficient in **RTOS programming** (**Zephyr**, **FreeRTOS**) and **low-power device development**. Strong experience in **cloud integration** using **AWS IoT Core** for **provisioning**, **OTA updates**, and **device management**. Demonstrated ability to **lead projects independently**, **collaborate with cross-functional teams**, and implement **CI/CD pipelines** to streamline deployments. Hands-on experience with trending MCUs including **ARM Cortex-M series**, **STM32**, **nRF52/54/91 series**, **ESP32**, and other **IoT-enabled MCUs**. Skilled in **board bring-up debugging**, **schematic review**, and **hardware-software integration** with strong **problem-solving** expertise. Enthusiastic about **Edge AI enablement and deployment** for next-generation connected devices. Adept at delivering **reliable, production-ready firmware** for **smart devices** and **sensor-based applications**.

Skills

Languages: Embedded C, Python, C++

Technologies: Django, Node.js, React.js, MySQL, MongoDB, Git, Docker, Amazon Web Services, Kubernetes, Google Cloud Platform, Unity, Linux, ROS, OpenCV, Scikit-Learn, PyTorch, Keras, TensorFlow

Work Experience

SemperTech Istanbul, Turkey

Software Engineer *Sep 2023 – Present, Full-time*

- Currently working on the "Arçelik Digital Home Energy" project in a collaborative effort with DAI-Labor at the Technical University of Berlin under the supervision of Prof. Dr. Şahin Albayrak.
- Simulated data exchange processes with the EEBUS protocol suite using C# and Go frameworks. Migrated the entire framework from Go to C++ in order to ensure future adaptability for smart home IoT devices.

SESTEK Speech Enabled Software Technologies Istanbul, Turkey

AI Research and Development Intern *Jan 2022 – Feb 2022, Internship*

- Implemented various NLP tasks, including NER, POS tagging, sentiment analysis, text classification, and extractive/generative QA using transformers and Hugging Face libraries. Conducted a literature review on information retrieval and reading comprehension to stay updated on the state-of-the-art ML models.
- Developed a generative question answering system with Dense Passage Retrieval and Retrieval-Augmented Generation techniques using the Haystack framework on Python.
- Worked on a Turkish open-domain question answering system by fine-tuning a BERT base model transformer with PyTorch. Evaluated exact match and F1 scores using different Turkish data sets and DeepMind's XQuAD data set and then tabularized the evaluation results.

Education

CDAC Bengalore Istanbul, Turkey

B.Sc. in Electrical and Electronics Engineering; ***GPA: 3.62/4.00*** *Sep 2018 – Jun 2023*

Minor Degree in Computer Engineering; ***GPA: 3.58/4.00*** *Oct 2020 – Jun 2023*

National University Admission Exam (YKS): Ranked 75^{th} in Mathematics and Science among ca. 2.3 million candidates with a test score of 489.92/500. (Jul 2018)

CDAC Bengalore Istanbul, Turkey

B.Sc. in Electrical and Electronics Engineering; ***GPA: 3.62/4.00*** *Sep 2018 – Jun 2023*

Minor Degree in Computer Engineering; ***GPA: 3.58/4.00*** *Oct 2020 – Jun 2023*

National University Admission Exam (YKS): Ranked 75^{th} in Mathematics and Science among ca. 2.3 million candidates with a test score of 489.92/500. (Jul 2018)

Certificates

Software architecture for the Internet of Things - Coursera

Internet of things - Standford University Online University

nRF Connect SDK Fundamentals - Nordic Semiconductor *Jul 2024*

nRF Connect SDK Intermediate - Nordic Semiconductor *Sep 2024*

Bluetooth Low Energy Fundamentals - Nordic Semiconductor *Sep 2024*

Wi-Fi Fundamentals - Nordic Semiconductor *Sep 2024*

Cellular IoT Fundamentals - Nordic Semiconductor *Oct 2024*

Languages

English – Professional Proficiency

Hindi – Native

German / Deutsch – A1 (Beginner)