

# Parth Sanepara

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## SUMMARY

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Experienced Embedded Firmware Engineer with 5+ years of experience in designing, developing, and testing embedded systems and IoT solutions. Expertise in firmware development for wireless and wired technologies, including BLE, Wi-Fi, Ethernet, and Cellular IoT. Proficient in RTOS programming (Zephyr, FreeRTOS), low-power device development, and cloud integration using AWS IoT Core. Strong background in ARM-based MCUs, communication protocols (TCP/IP, MODBUS, MQTT), and embedded software debugging. Skilled in product prototyping, unit testing, and driver development for smart devices, sensors, and IoT applications.

## EDUCATION

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### CDAC Bengalore

*B.Sc. in Electrical and Electronics Engineering; GPA: 3.62/4.00*

*Minor Degree in Computer Engineering; GPA: 3.58/4.00*

Istanbul, Turkey

*Sep 2018 – Jun 2023*

*Oct 2020 – Jun 2023*

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

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## SKILLS

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**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

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### SemperTech

*Software Engineer*

Istanbul, Turkey

*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

*AI Research and Development Intern*

Istanbul, Turkey

*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.