ROHIT SINGH
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OBJECTIVE

Seeking to work in an environment that will change me further while allowing me to continue growth and success to the organization and also obtain a position that will provide me with the ability to apply my skills to a growing industry.

EDUCATION QUALIFICATION

- BCA CCS University GNIOT 2020, Percentage - 60.6%, (Greater Noida)U.P
- XII(Science) CBSE Board The Union Academy Sr. Sec. 2016, Percentage - 57.2%, School Connaught place(Delhi)
- X CBSE Board Gyanodaya Public School 2013, Percentage - 68.4%, (Najafgarh)Delhi

SKIllS

Mobile & Frontend Development

- **Flutter** (cross-platform mobile,desktop,raspberry pi & web apps)
- **Dart** (state management, providers, streams, async programming)
  Isar Database (local storage, offline-first apps)
- **Firebase** (Authentication, Firestore, Realtime DB, Hosting, Push Notifications)
- **Responsive UI/UX Design** (custom UI, animations, theming)

Embedded Systems & Firmware

- **C / C++** (firmware development, hardware communication)
- **ESP32 / ESP-IDF / Arduino** (WiFi, Bluetooth, PSRAM, I2S, SPI, I2C, ADC/DAC)
- **Real-Time Data Acquisition** (FFT, signal processing, peak detection, data buffers)
- **WebSocket Communication** (real-time streaming between devices & apps)
- **SD Card File System Handling** (WAV file reading/writing, memory management)

Backend & Data Handling

- **REST APIs & WebSockets** integration
- **File Handling** (WAV, CSV, JSON parsing & generation)
- **Signal Processing** (FFT, peak detection, filtering)
- **Data Visualization** (real-time graphing, zoom/pan, audio spectrum)

PLATFORM EXPERIENCE

- **Desktop OS**: Windows, Linux, MacOS, Ubuntu.
- **Mobile OS**: Android, iOS
- **Web**: Cross-platform deployment (WebAssembly, PWA support)
- **Embedded Systems**: ESP32, Arduino, IoT Devices,Raspberry pi, Eprosima fast dds, Rti dds

TOOL EXPERIENCE

- **Embedded:** ESP-IDF (ESP32 Development Framework), Arduino IDE, PlatformIO
- **IDE & Development:** Visual Studio Code, Android Studio, Xcode
- **Version Control:** Git (Source Code Management)
- **Backend & Services:** Firebase Console (Backend Services & Analytics), ThingSpeak (IoT Analytics Platform)
- **API & Testing:** Postman (API Testing & Documentation)
- **Design & Prototyping:** Figma (UI/UX Design & Prototyping)

EXPERIENCE

- Working as a Software Developer at **Arctano Solution Pvt Limited(C.R Park,New Delhi)** from 5/10/2022 to Currently working.
- Worked as a Flutter Developer at **Renutech Solution Pvt Limited(Hauz khas,New Delhi)** from 21/11/2021 to 5/10/2022.
- Hired as an Intern to the post of App developer at **AnaxagorasR(Noida-63,Uttar Pradesh)** From 17/09/2020 to 15/06/2021.

PROJECTS

- **Project title :** Real time gas monitoring system
- **Technical requirement :** C++ used the Hx711 library .
- **Project Detail :** Firmware written in C++, which is used for the monitoring of the gas uses real time (domestic and industrial level).

  Feature

  1. Developed **real-time gas usage monitoring firmware** in C++ with HX711 ADC for high-precision measurement of cylinder/tank weight.
  2. Implemented **low gas detection and alert system**, improving safety in both domestic and industrial applications.
  3. Designed a data **logging module** to track daily/monthly consumption patterns for analytics and forecasting.
  4. Integrated **calibration and configurable threshold settings** for flexible

deployment across different gas cylinder capacities.
Enabled **scalable architecture** to support both single-cylinder (domestic) and multi-cylinder (industrial) monitoring.

Role : I identified and fixed a critical bug where all products were incorrectly marked as ready for delivery 4 days early. I also resolved major issues including OTA updates, weight adjustment calculations, and ensuring data is published within a day at the scheduled time when connected to the internet. Additionally, I assisted developers in integrating old devices with legacy firmware within the app.

- **Project title :** Spike Recorder software
- **Technical requirement :** Flutter, C++, JavaScript, Wasm.
- **Project Detail :** The purpose of this software is to provide a **visual representation of real-time spike or signal data** captured from connected hardware devices. It allows researchers, developers, and engineers to **observe, analyze, and validate signal activity** in the form of interactive graphs. This helps in identifying patterns, anomalies, and performance metrics for applications such as **biomedical research, audio signal processing, and embedded system testing**.
- **Platform support:**Window,Android,Web,Mac,Ios.

  Feature

  1. By just Attached device through the usb device automatically read the data from the connected devices.
  2. We see the real time audio data on the screen on the form graph at the same time .
  3. Supports **horizontal scrolling** to navigate through recorded data with a time range from **120 milliseconds up to 120 seconds**, giving both short-term and long-term visibility.

- **Project Title:** Biosignal Recorder Software
- **Technical Requirement:** Flutter, C++, TLV320ADCx140 (ADC Chip), Firmware Development

  Project Detail: The purpose of this software is to record and visualize stomach EEG (Electrogastrography) signals in real time. It helps researchers and medical practitioners analyze gastric electrical activity, detect abnormalities, and study digestive system behavior. The solution integrates custom firmware, hardware configuration, and a Flutter-based Android application to deliver a complete biomedical monitoring system.
- **Platform Support:** Android

  Features & Contributions: Firmware Development: Wrote the firmware for the TLV320ADCx140 ADC chip, handling initialization, register configuration, and continuous data acquisition.

Custom Hardware Setup: Configured the ADC to capture signals in the range of 0.016 Hz to 30 Hz at 8000 samples/second.

1. **Real-Time Data Processing:** Implemented FFT (Fast Fourier Transform) on real-time biosignal data.Required at least 3 minutes of continuous data to extract accurate frequency peaks from the 0.016 Hz band.
   Highlighted real-time frequency peaks in the graph for clear visualization of dominant gastric rhythms.
2. **Signal Visualization:** Built an Android app (Flutter + C++) that displays biosignal waveforms with scrolling and zooming across time windows ranging from milliseconds to several minutes.
3. **Storage & Export:** Enabled saving biosignal data for offline analysis and research use.
4. **Biomedical Application:** Designed specifically for stomach motility analysis and digestive disorder research, combining embedded firmware and mobile software into a single solution.

- **Project title :** Pcb Testing Software
- **Technical requirement :** Flutter,python.
- **Project Detail :** Software is communicating with the device to show error and on the bases of software functionality it is very easy to trace the error in pcb board.

  Features

  1. Locally storage the tested board
  2. We can find the exact error in the board by tracking the number which is assigned during the upload of the gerber zip file of pcb and drill.
  3. Select the points by just drawing the box through dragging the mouse on the points,etc

- **Project title :** Home automation app
- **Technical requirement :**Flutter
- **Project Detail :**Basically the user interface is designed by me and other backend parts are done by another team member.
- **Link:**https://drive.google.com/drive/folders/1BVanbADl662hCz2LUqv24uYiyt1EVNiK?usp=drive_link

- **Project title :**Grain Moisture log App(Phase I and phase 2)
- **Technical requirement :**Flutter + Firebase for Android/For Desktop Application used Firedart.
- **Project Detail :** It is the app in which user can measure the weight of things(truck,tempo,etc)
- **Link:**https://drive.google.com/drive/folders/18BLtKCcj6ubkWCJG49VZX4HxiTnlN1Hd?usp=sharing

  Features

  1. Users can create the **PDF** of the bill.
  2. Users can share and **print the pdf** in the form of a bill.
  3. Users can apply the filter on the basis of the date bill.
  4. Users can manually add the three key-pair values of any type.
  5. The project is compatible to run in the Windows Operating System.

- **Project title :**Smart Composter App
- **Technical requirement :** Flutter + Thingspeak for backend
- **Project Detail :** It is an app which checks the condition of the composter with the help of devices.
- **Link:**https://drive.google.com/drive/folders/1Hc5JHMjTn0Zchbb79r0zkas_m-6aBDme?usp=sharing

  Features

  1. In these apps users can analyze the condition of the composter.
  2. In these app user can see the temperature,pressure,moisture,gas level
  3. With the help of graphs, users can easily understand the condition of the composter.
  4. In these app user have option to set local notification Daily input reminder two time a day, Daily tumbler reminder three time a day,weekly transfer reminder three time a week,and weekly harvest reminder two times in a week

- **Project title :**Arctano solution website
- **Technical requirement :** Flutter + Firebase (first version), Jekyll with HTML, CSS, and JavaScript (second version)
- **Project Detail :** It is a website in mostly pages designed by me and made all websites responsive according to mobile,tablet and desktop.
- **Website link :-** https://arctano.com/

  Features

  1. It is a website in which companies show their portfolio of work done.

2. Website ui is very creative and interactive in which flutters most of the widget to animate the detail of an object in a very effective manner.
3. In the website customers create the query and generate their requirement,all the customer details saved in the firebase.

DECLARATION

- I hereby declare that all the above given information is true to the best of the knowledge. I am responsible for any discrepancy found.