

# BHUVANESHWARI KANAGARAJ

Passionate IoT and Embedded enthusiast solving real-world problems.

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## PROJECTS/CONSULTANCY-PROJECTS

### Consultancy Project1 [Freelance]-Life Automation

#### WEIGHT SENSING AND DATA TRANSFER

December 2021 – January 2022 Coimbatore, Tamil Nadu

- An part of vending machine has been engineered to accurately weigh products, monitor sales, and display real-time food item updates.
- Solution includes a drive system with real-time weight calculation and MQTT communication to the admin system.
- Design uses a WiFi-enabled microcontroller, load cell, and MQTT for real-time weight monitoring and communication with the admin system.
- Design improves vending machine performance by 50-75 compared to traditional vending machines.

### Consultancy Project2 [Freelance]- Weaving Industry

#### END TO END PIC MICROCONTROLLER PROGRAMMING FOR WEAVING MACHING

Jan 2023 – Present Coimbatore, Tamil Nadu

- The first phase of programming various settings modes has been finished as of now.
- At the end the it allows Complete Automated Weaving

### RFID BASED ATTENDANCE SYSTEM -KGX [Internship]

#### STUDENT ATTENDANCE MONITORING

Sep 2022–Nov 2022 coimbatore, Tamil Nadu

- A system is implemented to record the start and end times of Student's attendance and the total number of hours worked is calculated.
- This is implemented by Raspberry connected with a simple LCD.
- Github link : <https://github.com/kgex/bigeye>

### ZIGBEE OVER LoRa[ Personal Project]

#### IMPLEMENTING ZIGBEE OVER LoRa DEVICES

Jan 2023- Present Coimbatore , Tamil Nadu

- Communication between the LoRa devices is established using the Zig-Bee protocol.
- Currently, working on rewriting the ZigBee network stack for the LoRa devices.

## SKILLS

Persuasive

Motivator & Leader

Programming Languages:C++

Version Control: Git

Boards:AVR-Arduino-ESP , PIC , STM32 , LoRa based boards , RF

Protocols: MQTT, ESPNOW ,ZigBee , LoRa, LORaWAN , BLE

USART , UART , SPI , I2C

Cloud :The Things Network , Thingspeak ,IoT Core

## EDUCATION

### B.E- Electronics And Communication

#### KGiSL Institute of Technology

Aug 2019–May 2023 Coimbatore

9.21 \*CGPA

### Higher Secondary Schooling

#### Amrita Vidyalayam , CBSE

June 2018-June 2019 Coimbatore

Percentage:69.4

## ACHIEVEMENTS

### Smart India Hackathon Winner- 2022(Software Edition)

- Won Cash Prize of Rs 1,00,000
- Completed for the Problem Statement (BV816- Problem Statement code)
- Role: I developed and integrated IoT functionality in the prototype throughout the prototype design and development phases.
- Technical Stack: LoRaWAN, C/C++

### Handle 5+ Technical sessions

- Mentored about 200+ students
- Technical stack Taught:AVR-(Arduino), ARM(LoRa, STM32),
- Protocols( MQTT, LoRaWAN, LoRa,ESPNow)
- cloud (The Things Network, ThingsSpeak )

### Secured prizes at various symposium

- Secured Second place in National level Technical Symposium (Paper Presentation Event)organized by KPR Institute of Engineering and Technology(04/2022)
- Secured Second place in National level Technical Symposium (Paper Presentation Event) organized by Dr.N.G.P Institute of Engineering and Technology(05/2022)
- Secured Third place in National level Technical Symposium (Project Models) organized by Dr.N.G.P Institute of Engineering and Technology- 2022(05/2022)

### Best Pitch Award

- Awarded 1st prize for the pitch presented at Agile Business Incubation Centre

## OTHER EXPERIENCE

### 1 . YOUTUBE AND MEDIUM

#### Sharing Knowledge through Technology

📅 2020-Present

- My interest in teaching has inspired me to create educational content on YouTube and Medium, such as videos and blog posts, in order to share my knowledge and motivate others to learn.
- YouTube: 🌐 [shorturl.at/gSP01](https://shorturl.at/gSP01)
- Medium: 🌐 [shorturl.at/bkR23](https://shorturl.at/bkR23)

### 2 . FREELANCING

#### IoT and Embedded-Based Product Development

📅 2021-Present 📍 Coimbatore

- Worked with Life Automation company on building their Wending Machine
- Currently working with a local developer for Enhancing the Loom Machine production.

### 3 . COMMUNITY EVENTS

#### ACTIVE MEMBER OF GOOGLE COMMUNITY COMIBATORE

📅 2021-Present 📍 Coimbatore

- Participated in various Google Community events.

### 4 .KGXperience INNOVATION CELL

#### IoT and Embedded Lead

📅 Feb 2022-Feb 2023 📍 Coimbatore

- Mentoring more than 100+ Students
- Worked on 3+ Real-time Projects

## CERTIFICATES

- ISRO - Geospatial Inputs for Enabling Master Plan Formulation
- GUVI and Coursera - C, Python, Py-game
- NVIDIA - Fundamentals of Accelerated Computing with CUDA C/C++
- ENTU TECH - One-week Internship on PCB Design
- Google Analytics Academy - Introduction to Data Studio
- Ministry of MSME - Top 20 finalist of Toycathon, 2021
- Coursera - Introduction to Internet of Things

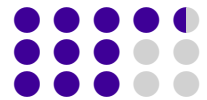
## LINK TO CERTIFICATES

CLICK BELOW

🌐 [shorturl.at/jmnpu](https://shorturl.at/jmnpu)

## LANGUAGES

English  
Tamil  
Sanskrit



## MENTORING EXPOSURE

- 1. Mentored 2021-2025 Batch of SNS INSTITUTE OF TECHNOLOGY for two days on Basics of Electronics
- Day One: Basics of electronics and AVR Architecture
- Day Two: Arduino - ESP8266 and Sending data with MQTT Protocol
- 2. Mentored 2021-2025 Batch of KGiSL INSTITUTE OF TECHNOLOGY for one week on IOT and Embedded Systems
- 3. Mentored 2020-2024 Batch KGiSL INSTITUTE OF TECHNOLOGY for one week on Real time projects.

## INTERNSHIP

### KGXperience

#### IoT and Embedded Lead

📅 Feb 2022- March 2023 📍 Coimbatore, Tamil Nadu

- 1. A real-time RFID and door lock system was developed, using a Raspberry Pi as the main hardware.
- 2. Worked on the Transport4All Challenge-2023, a real-time issue originating from Indian cities.
- 3. Mentored Juniors and Interns on the different Embedded Concepts
- Skills : MQTT , LoRa/LoRaWAN , SPI and STM32 itemize

### ENTHU TECHNOLOGY

#### Learning Internship on PCB Design

📅 June 2021- July 2022 📍 Coimbatore, Tamil Nadu

- Gained hands-on experience in PCB design using Eagle Software

## INTEREST

- Astrophotography
- Blog Writing
- Public Speaking
- Community Involvement
- Problem Solving
- Tech Talks

