MANISH KUMAR GUPTA

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To work in an organization, where innovation and excellence is the way of life, where my full potential will be explored and utilize my skills and abilities in the Information Technology Industry that offers professional growth while being resourceful, innovative and flexible.

CURRENTLY

- Pursuing Master of Science (MS) by Research in Control and Automation from Indian Institute of Technology Kanpur (IIT Kanpur) (Batch 2021-2024), with a 9.0 CPI.
- I am taking a course on Machine learning. I have done two projects on machine learning for Single audio detection and multi-level multi output audio detection using CNN and ResNet. I have basic knowledge of machine learning and apply math in machine learning. Highly interest in worked on machine learning application in practical case.
- A few days ago, I filed an application for a patent titled " Smart electric meter device and method for enabling meter data communication" with application number 202211063636.

WORK EXPERIENCE

Nov 2019 to Dec 2021 R&D IIT Kanpur, ***Senior Project Associate***

Data Acquisition of Smart Meter Using DLMS Protocols (IEC-62056): -
I had experimented on the Sumeru Verde energy meter. In this meter there is an optical port and using that I have read data, for reading the data I bring up the following procedure:
Create HDLC packet which is having mentioned frame:

- First packet of SNRM frame, it checks whether meter is alive or not
- Second packet of AARQ frame, it is used for authentication for example None, low or high level
- If low or high authentication exist then one should send third packet

- After successfully connected, we are ready to take meter attributes like voltage, current, frequency, KWh, active energy etc.

Data Acquisition of Energy Meter Using Modbus (Digital meter): -
I have elmeasure energy meter, it has a communication port RS-485 and it is a non DLMS meter. On this I read the data from python script using RS-485 and send data over server to client using RF module. In RF module I used the LoRa modulation and the range of LoRa modulation in practical case is 700m(indoor).
Remote Health Monitoring System: -
In this project, I measured heart rate, Spo2 level, ECG graph and blood pressure and it shows on the web browser.

Sept 2018 to Nov 2019 iSMRITI (faculties and alumni from various IITs (Start-up)), IIT Kanpur, ***Junior Technical Engineer***

IOT Projects: -

- I was sent the sensor data into the own app created on MIT app inventor 2.
- Device controlling using a smart phone.
- Home automation using Google Firebase and MIT app inventor 2.
- Implemented home automation and various other project using mosquito (local MQTT broker) running it on the Raspberry Pi in the local network and similar using adafruit.io (MQTT global broker) in different networks.
- Led control using a web browser and MIT app inventor 2.
- Sensor data login to Google Sheets.

AWS Project: -

- **Generate Subtitle: -** This project is used to generate the text of any Audio or Video file. I have written the code which connects to two web services of AWS, for audio/video files storage purpose used Amazon S3 and I have a scheduler which picks the files from S3 bucket and sends to the Amazon transcriber service. I was sending the audio/video data from local system to first storage(S3) than storage send to send amazon transcriber (from audio/video to text converter) then download JSON file into the local system and decoded into the text file. It will be worked automatically.
- I have created two types of Virtual Network Computing (VNC). First is ubuntu 18.04 and windows 10. I was deployed code on both virtual machines.

Minor Project: -

- OATs (Obstacle Avoidance Robot)
- Burglar Alarm
- Fire Alarm
- Water-Level Indicator
- Mobile Robot
- Automatic Door Opening System
- Reverse Car Parking Indicator
- Automatic Plant Watering System
- Automatic LPG Gas-Leak Detector

TECHNICAL SKILLS

- Python (For Embedded Program)
- Embedded Programming (Different type of Microcontroller
- Data Acquisition of Smart Meter
- SPI (Serial Peripheral Interface)
- I2C (Inter Integrated Circuit)
- UART (Universal Asynchronous Receiver Transmitter)
- Wireless Communication (LoRa, NRF)
- TCP/IP protocol
- OS: Linux, Windows

EDUCATION

- Pursuing Master of Science (MS) by Research in Control and Automation from Indian Institute of Technology Kanpur (IIT Kanpur) (Batch 2021-2024), with a 9.0 CPI.
- Completed Bachelor of Technology (Electronic & Communication) from UIET, Chhatrapati Shahu Ji Maharaj University Kanpur (Batch 2014-2018), with 70.4%.

- Completed Intermediate (UP BOARD) from Government City inter college Ghazipur with 78.6% in 2013.

- Completed High School (UP BOARD) from Government City inter college Ghazipur with 67% in 2011.

TRAININGS & CERTIFICATION

- I did Industrial Summer Training from **North Central Railway** Kanpur since 01-06-2017 to 12-07-2017.

- I have successfully completed the NPTEL Online Certification in **MATLAB Programming for Numerical Computation (IIT Madras)** with a consolidated 69% on March 2017.
- I have successfully completed the NPTEL Online Certification in **Problem Solving Through Programming in C (IIT Kharagpur)** with a consolidated 81% on April 2018.