DIWAKAR PAL

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CAREER OBJECTIVE

To obtain a challenging position as a Software Engineer and the possibility of career advancement.

PROFESSIONAL SUMMARY

- **Technically Sophisticated Professional** with **5+ years** of experience in the areas of Software Development & Testing.
- Strong experience in C Language and Python.
- Adept in end-to-end development of software products from requirement analysis to system study, designing, coding, testing, de-bugging, documentation and implementation.
- Deft at mapping the requirements, custom designing solutions & troubleshooting for complex software & application problems.
- Experience in working with different types of embedded hardware (like LCD, Sensors, Motors and Keypad etc.)
- Outstanding knowledge of software-hardware interactions and interfacing.
- High ability to identify and implement process improvements.
- 3+ years of experience in Python, Data Science, Machine Learning and Deep Learning using scikit learn, tensorflow, Keras and computer vision.
- Solved data analysis problem using Linear Regression, Logistic Regression, K-Nearest Neighbors, Random Forest, Support Vector Machine (SVM), K-Means Clustering etc.
- Implements data cleaning, feature selection, feature engineering, model selection and validation technique using scikit learn using Python.

TECHNICAL SKILL SET

Language	C,C++,Embedded C, Python
Operating Systems	Windows, Ubuntu,ROS(Basic)
Machine Learning Framework	Scikit Learn, Pandas, Numpy, Scipy, Tensorflow, NLTK, Opencv, Seaborn, Matplotlib, Keras, dlib, skimage
Machine Learning Technique	Linear Regression, Logistic Regression, K-Nearest Neighbors, Decision Tree, Random Forest, Support Vector Machine(SVM), XGboost, PCA, K-Means, TF-IDF, Deep Learning ,CNN , RNN
Database	SQLite, MySQL(Basic)
Embedded Hardware	8051, AVR, PIC, ARM, Arduino UNO, Arduino Mega, Raspberry Pi, Relay, Peripherals (LCD, Keypad, Sensors, Motors, Switches etc)
Embedded Software	Keil, AVR Studio, MicroC, Proteus
Protocol	SPI, I2C, UART, ADC, PWM, EEPROM, RF-Module, Bluetooth, Zigbee

WORK EXPERIENCE

- Working for PBOPlus Consulting Service Pvt. Ltd., Delhi as Embedded Application Engineer from Jan, 2019 to till now.
- Worked for AAM Infotech Pvt. Ltd., Gurgaon as Software Engineer from Mar, 2017 to Dec,2018.
- Worked for TechieNest Pvt. Ltd., Jaipur as Embedded Engineer from Aug, 2016 to Feb, 2017.
- Worked for SOFCON Group, Noida as Embedded Engineer from Jul, 2014 to Jul, 2016.

EDUCATIONAL QUALIFICATON

- B.Tech in Electronics and Communication Engineering from PTU, Jalandhar in 2014.
- Completed six months Embedded System Course in jan-14 to jun-14.
- Completed Machine Learning Course from Udemy and Coursera.

PROFESSIONAL EXPERIENCE

Project – 1

Title	AUTOMATIC GUIDED VEHICLE USING MACHINE LEARNING
Client	Legend Polyform, Sonipat, Haryana
Role	Programming, Testing, Debugging
Description	AGV's are used for material transport robot in Industries and Warehouses. It can carry a payload from 50 kg to 200 kg with completely automatic guidance features with Ultrasonic Sensors and Camera for mapping. The automatic obstacle avoidance by majoring the distance using deep learning & sensors and to retaining original path by using image processing to calculate it object size and find the shortest path to back on track.

Project – 2

Title	SEGREGATION OF DEFECTED SAFFRON PICKING MACHINE USING COMPUTER VISION
Client	USMS Baby Saffron, Neemrana, Rajasthan
Role	Programming, Hardware, Testing, Debugging
Description	In segregation process, Our machine detect the defected yellow saffron leaf by camera using color detection algorithm and find its X/Y coordinates in the arena and transmit the coordinates to the embedded ST arm microcontroller over serial communication. It triggered the x/y rail according to the coordinate and it pick the defected leaf by vacuum section attached to the rail. Segregation machine having 81% of accuracy in detecting defected yellow leaf.

Project - 3

Title	FACE RECOGINITION ATTENDENCE MARKING SYSTEM
Client	PBORobotics, Delhi
Role	Programming, Testing, Debugging
Description	Face recognition model using opencv, face recognition and pyqt5. It detect the face and gather the data to train the recognizer model and detect the face if it found the image in the existing data it triggered the api and marked that person attendance and also generate the monthly report of attendance.

Project – 4

Title	QUALITY DEFECT DETECTION USING MACHINE LEARNING
Client	Jindal, Mundra, Gujarat
Role	Programming, Testing, Debugging
Description	Our Model basically used to detect the defect in pipe and type of the defect also during the time of making. Through this model they minimize there rejection at the quality check and rework by finding any defect. In this model we used opencv, numpy and keras model.

Project – 5

Title	IoT BASED WIRELESS PATIENT HEALTH MONITORING
Client	PBO HealthCare, Delhi
Role	Programming, Hardware, Testing, Debugging
Description	Our system puts forward a smart patient health tracking system that uses Sensors to track patient health and uses internet to inform their loved ones in case of any issues. Our system uses temperature as well as heartbeat sensing to keep track of patient health. The sensors are connected to a microcontroller to track the status which is in turn interfaced to an LCD display as well as Wi-Fi connection in order to transmit alerts. If system detects any abrupt changes in patient heartbeat or body temperature, the system automatically alerts the user about the patient's status over IOT and also shows details of heartbeat and temperature of patient live over the internet. Thus IOT based patient health tracking system effectively uses internet to monitor patient health stats and save lives on time.

Project – 6

Title	Industrial Dial Indicator Data Transmission and Display Using ZigBee
Client	MAHR, Gurgaon, Haryana
Role	Programming, Hardware, Testing, Debugging
Description	Designed and developed of interface between the dial gauge and microcontroller using zigbee for different shop floors. In this module we first transfer data from dial gauge to microcontroller then data to the master zigbee for wireless communication then that master zigbee communication data to slave zigbee on different automation floor.

DECLARATION

I hereby declare that the above mentioned information is correct to the best of my knowledge.

DIWAKAR PAL