

SingarapuAshok

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Career Objective

To render in the best of my abilities and hone up skills in the catalyzation of my career. I look for a vibrant, dynamic and challenging job options, which would enhance my experience in all myriad work environments making me reach to the epitomes as an ambitious and goal-oriented person.

Education

- **Master of Technology - Embedded Systems (2016-18) - 8.33CGPA -JNTU, Hyderabad.**
- **Bachelor of Technology - Electrical and Electronics Engineering(EEE) (2012-16) -68.69% - JNTU, Hyderabad.**
- **Intermediate Board of education - MPC (2010-12) - 72.7%, SVS junior college, Hanmakonda, Warangal.**
- **Secondary school of Education (2010) - 81.4%, ZPHS Mamidalapally.**

Experience

Senior Project Fellow (SPF) at CSIR-CEERI, Pilani in Department of Cyber Physical System from April 2019 to March 2020.

Project Title: Technologies for robust structural health monitoring of critical Infrastructural and Conservation & Restoration of Heritage Structures(SHM) (HCP0018). The word SHM (Structural Health Monitoring) associates continuous observation of the characteristics of a structure by digital instruments like sensors (e.g. accelerometer sensors and etc.) In another way, SHM includes a selection of sensor data, continuous monitoring and figure out them in real-time. To Estimate SHM parameters, we need to acquire real-time data from the various sensors such as for as temperature, Humidity, Accelerometer. From these sensors, data will be collected and undergoes selected suitable Digital signal processing algorithms for noise elimination. Here the technique used for removal of noise is Wavelet denoising and also created a graphical user interface to display the output in Python.

- To Estimate SHM parameters, real-time data were acquired from the various sensors such as for as temperature, Humidity, Accelerometer.
- From the above data noise is eliminated using Wavelet Denoising Technique and estimated the noise eliminated quantitatively using Machine Learning Algorithm. A graphical user interface was created using Python. **Rolls:**

Work carried out:

Damaged and undamaged data files Converting the mat files to CSV files:

1. Extract the contents of acceleration variable with size(400001x16) from each file into new variable and save the contents into CSV files. And also extract time variable.
2. After conversion, make a plot each column from 1-16.
3. Preparing a histogram of each column.

4. preparing a correlation between damaged and undamaged data.

Conversion and plot the Damaged data files and Undamaged data files

1. CSV file to Fast Fourier Transformation (FFT).
2. Natural frequency methods.

Data visualization - 4-D Visualization.

Data Classification Methods

One-Class Classification:

1. One Class K-Means (OC-Kmeans) algorithm and implementation.
2. One-Class K-Nearest neighbour (OC-KNN) algorithm and implementation.
3. One-Class Gaussian algorithm and implementation.
4. One-Class Support Vector Machine (SVM).
5. One-Class Principal Component Analysis (PCA).

Neural Network One-Class Neural Network.

Keywords: Deep learning, Machine learning, AI, Python, Embedded C, C++, Jupyter notebook, R, Idle shell, MATLAB.

Project undertaken

1: M. Tech Thesis:

“Management of diabetics in Children's based on Internet of Things (IoT)”.

Description: Health systems have a vital and continuing responsibility for people's health throughout the lifespan. They are crucial to the healthy development of individuals, families and societies everywhere. In recent years, we have witnessed a rapid rise in e-healthcare technologies such as Electronic Health Records (EHR) and the importance of emergency detection and response. The paper introduces a method to design a system which monitors the health parameters of a patient and send the details through inbuilt Wi-Fi feature present in the Raspberry pi processor to an android phone and also alerts through buzzer if any of the parameters exceed the threshold value.

Keywords: Raspberry pi processor, Temperature sensor, Blood Pressure sensor, Spo2 sensor, Glucometer sensor.

2: B. Tech Thesis:

1. Three Phase Power Converter Connected to a Distribution System.(Using in MATLAB).
2. Overview of 33/11KV&132/33KV substation.

Publications

Singarapu Ashok, “Management of diabetics in children's based on Internet of Things (IoT)” *Journal of Emerging Technologies and Innovative Research (JETIR)*, 2018. International Journal of Research.

Workshops Attended

- Design and implementation of Efficient, low cost Solar charger
- Over view of Raspberry pi
- National seminar on "Recent advanced in IoT" (33rd national convention of Electronic and telecommunication engineering).

Skill Set

MatLab, Embedded C, Python, Machine Learning Algorithms, Raspberry pi, Arduino, AutoCAD, Operating System, MSP430, Artificial Intelligence (AI), Deep Learning, C Language & Photo shop.

Additional Contributions and Accomplishments

1. Best student award in School level.
2. Completed a course on Machine Learning organized by E_Learning courses.
3. Completed a course on programmable logic controller organized by E_Learning courses.
4. Completed a course on Power system power cables organized by E_Learning courses.

Personal details

Aadhar No : 335586586494

Passport No : S1968880, issued in Hyderabad

Date of birth : April 23, 1995

Marital status: Single

I hereby declare that the above stated particulars are true to the best of my knowledge and belief and given a chance to serve your organization, I shall do my best.

Date:

Place:

(S.Ashok)