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| Project ID |
| CSIN2021-0526 |
| Project title |
| Smart Automation Using Machine Learning And Neural Interface |
| Problem definition |
| To build an effective and efficient solution for automation over existing non efficient systems |
| Proposed solution |
| The proposed system is connected to the existing Home Wireless Network, Automation is done Based on Machine Learning on Emotion Recognition and Neural Wave Sensing. When system is in emotion recognition mode it detects a face and analyses weather face Is pleasant or sad or angry and switch profiles according to it. when system is in neural interfacing mode system uses connected brain wave neural link sensor to detect beta waves and understand the strength of waves and switch profiles. Each profile is bundled with different activities that user want to perform by the system. When system is in manual mode or automatic mode system may manually controlled by user itself or system may automate according to connected sensors like temp, moisture, light, radiation, particulate, etc…. respectively. |
| Innovation aspect in the proposed solution |
| The proposed system is connected to the existing Home Wireless Network. The Proposed system has four modes of operation:   * **Manual Mode**: In this mode the User must use the user interface like a remote control for controlling the appliances. The System will respond by Automating only those devices that the User requests. * **Automatic Mode:** In this mode the system will automate the devices automatically based on the dataset that is created according to the user’s pattern. There is no need to configure or schedule manually as in in traditional home automation systems. This is why Data-Driven Approach is always better than Traditional Scheduling systems. * **Emotion Recognition Mode:** The system will use the connected camera to detect the user’s facial expression and accordingly will automate the lights, fan etc. * **Neural Interface Mode:** -The system will use connected EEG Sensor to detect Users brain waves to identify user needs and automate according to waves detected |
| Specific outputs of the project |
| * Successful Implementation of Neural Interface Using EEG Sensor * Successful Implementation of Emotion Recognition using Machine Learning |

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| Technology and Platform |
| Technologies Used: -  IOT  Machine Learning  Platforms Used: -  IFTTT  Blynk  Web Hooks |
| Current status of implementation |
| Completed Stage 1 Implementing Current System, Stage 2 Coding of Emotion Recognition System is Started |

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| DETAILS | | | | |
| Name of the College | | MGM College of Engineering and Pharmaceutical Sciences | | |
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