Dissertation proposal

BURHAN T VOHRA
ME-EE-MSA
PRN:-2020033800106513

- This is the proposal for the ME-Dissertation work in the Company named Grid Scape Solutions is a leading smart energy solutions company that specializes in developing and deploying innovative, standards-compliant products and solutions for renewable Micro-grid and EV charging systems. In this Industrial Define Project is focuses on area of usage pattern devices in Microgrid system for the following problem

PROBLEM STATEMENT

- Modern life has grown to be extremely dependent on **Electric Power**. As the world's services increasing in consumption of energy has highlighted energy crises and environment threats. Various Countries are planning and developing strategies and for this the **Microgrids** has received a lot of buzz the recent years and giving incentives to public for the promotion and development of **sustainable energy** project like **solar roof**, low-usage LED bulb, and for providing them with energy efficient device we have to detect the **power usage pattern** of that devices with the help of some algorithms which used to minimize the **energy wastage** and **annual electricity cost.**
- Too carried out the **usage pattern** of each an every electrical devices in microgrid environment is more important in optimizing the cost and Wastage .
- It is estimated that around **35%** of the energy supplied to the devices are **wasted**. To overcome this problem one of the solution is to study above its "**usage pattern**" of the device used in Microgrid Environment because Microgrid is consider as one of the power full tool to minimize energy waste.

Dissertation proposal

BURHAN T VOHRA
ME-EE-MSA
PRN:-2020033800106513

PROPOSED SOLUTION

- **Smart microgrids** are a possibility to reduce complexity by performing local usage optimization of devices used in production consumption and storage.
- A micrgrid consists of four main units:-
  - production unit
  - unit of storage
  - control system(HVAC)
  - consumers
- Operating and Controlling a smart grid involves optimization for using locally generated energy and to provide feedback to the user when and how to used devices.
- Today we have a technologies which enable us to transfer data far distance and we have much faster computing power that can sent a feedback to the device where to operate.
- So for using that data we need to have an algorithms that identify electrical devices in **real time** using **intelligent techniques** through **data analysis** that help in overcome above problems which directly benefits us to **reduce wastage** of energy and make end user to use more **renewable** and **Non-conventional resources.**
- This process is initiated by collecting information related to power usage of electrical devices which is used in microgrid environment.

PROJECT TITLE

- **"Detect Usage Pattern of devices in Microgrid Environment"**

Dissertation proposal

BURHAN T VOHRA
ME-EE-MSA
PRN:-2020033800106513

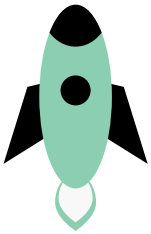
PROPOSED METHOD FOR SOLUTION

- Machine Learning
  - k-means
  - neutral network
  - means-swift
  - fuzzy logic
- Artificial Intelligence

MILESTONES

Detailed Study and Planning

Prototyping and User-Testing



Presenting/Launch

PROJECT PROCESS

01 **CONCEPTS**
Undestanding the Concept

02 **ALGORITHUM**
Apply the best method

03 **FINALISE**
Design finalisation and completion

04 **ASSESS**
Design to be ready for the used.