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PROJECT TOPICS PRESENTATION

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IOT BASED HYDROPONICS SYSTEM

Hydroponics is a technique of growing plants without soil and without the limitations of space and climate. In the traditional farming system, plants depend on soil to obtain all nutrients needed for their growth. In contrast, a hydroponic garden provides all of these nutrients without involving sunlight, soil, extra labour.

▶ **Objectives**

- To cultivate vegetables with minimal use of soil and water.

- To supply the ideal nutritional environment for optimum plant performance.

- To allow farmers to benefit from efficiencies and to reap large produce yields.
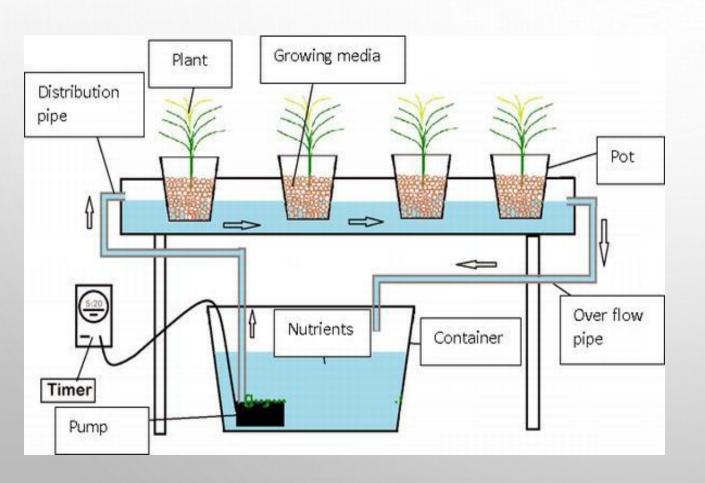
▶ **Problem definition**

- To implement a Hydroponics System with Help of IoT to grow plants without soil and without the limitations of space and climate and to supply the ideal nutritional environment for optimum plant performance.

▶ **Requirements**

- Power Supply Break Switch

- Water Pump

- Horticulture Lighting(Grow Lights) with Regulator

- Pipes to transfer fluids

- A Controller to control the System (Arduino)

WORK MODEL

Distribution pipe

Plant

Growing media

Pot

Over flow pipe

Container

Nutrients

Timer

Pump

HEALTH ASSISTANCE USING CNN

- Intelligent health assistant is a CNN based personal assistant basically a service, which is powered by AI rules, and one can interact with it via a chat interface.

- When the system receives the descriptions of user's symptom, it conducts both web search and local medical knowledge database search.

- CNN is an algorithm which can take in an input image, assign importance to various aspects/objects in the image and be able to differentiate one from the other

▶ **Objectives**

- To predict disease from symptoms and health history using CNN.

- To predict the chronic diseases without visiting physician or doctor for diagnosis.

- To counsel the best expert advises on many different types of diseases.

- To reduce the complexity of healthcare services.

- To improve the lives of people who have busy schedule to easily keep a check on their health. .
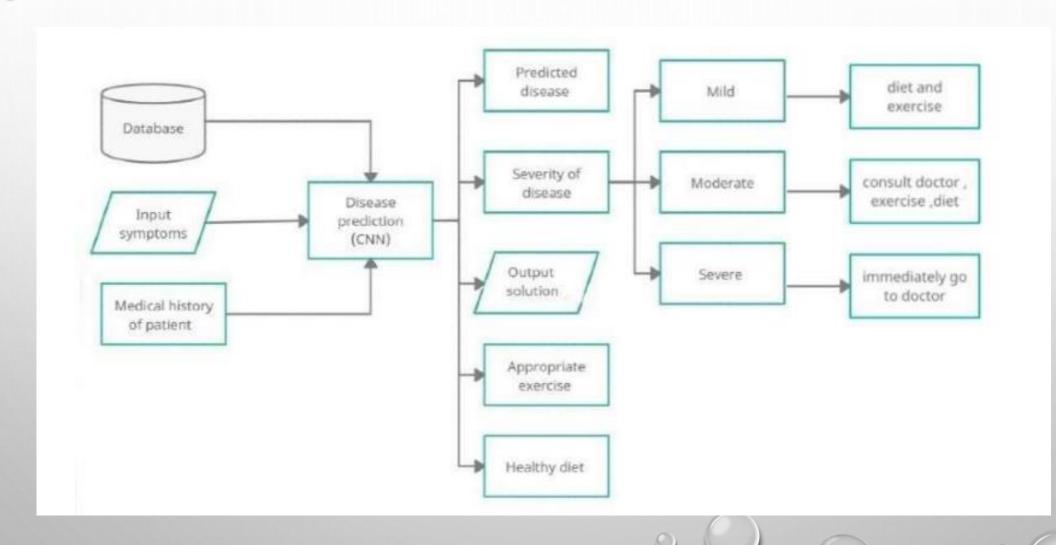
► **Problem definition**

To implement an intelligent health assistant using CNN for various disease detection and risk prediction without visiting physician or doctor for diagnosis using different techniques of machine learning.

► **Requirements**

- User Module to Enter Symptoms

- Database to store files and store different disease data

- Pycharm Integrated Development Environment(IDE)

FLOWCHART

STOCK TREND PREDICTION

Stock Trend prediction is a prediction system that illuminate the risk that undergoes during the investment in stock market. Forecasting of the stock trend prediction is done by the available data source and prediction is done for Up trend and down trend.

► **Objectives**

- To identify factors affecting share market.
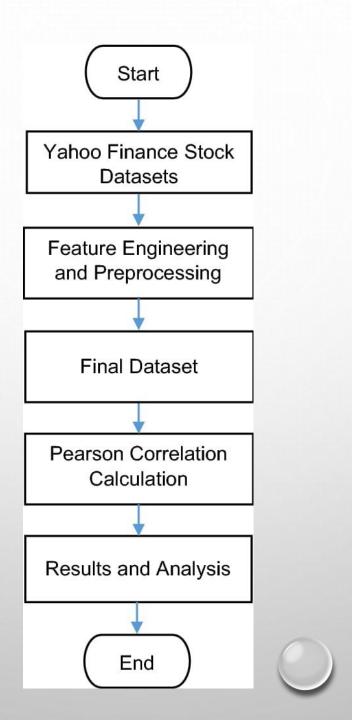- To generate a pattern from large dataset of stock market for predictions.

▶ **Problem Statement**

To implement a Stock trend Prediction System to help financial investors to take right decisions while investing in Share Market.

▶ **Requirements**

- User Module to Enter Stock Ticker

- Stock Dataset to analyze values and provide predictions

- Integrated Development Environment(IDE)

- Jupyter Notebook

FLOWCHART

HANDWRITTEN DIGIT CLASSIFICATION

- In this project, we will focus on building a mechanism that will recognize handwritten digits. We will be reading images containing handwritten digits extracted from the MNIST database and try to recognize which digit is represented by that image.

▶ **Objectives**

- To apply image correlation techniques.

- To ensure effective and reliable approaches for recognition of handwritten digits.

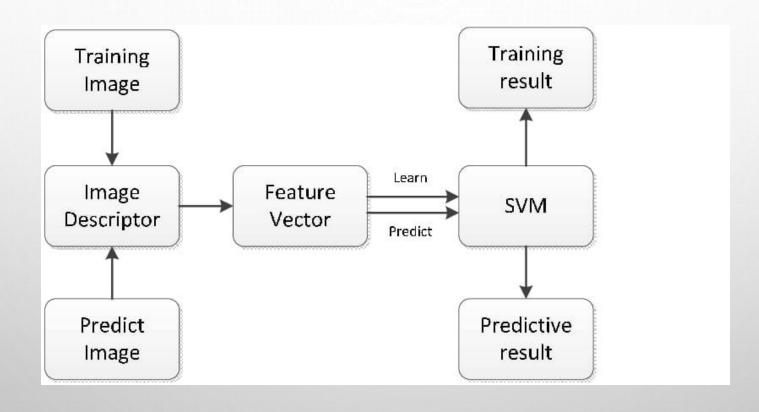- To use Machine Learning for training the program.

▶ Problem Statement

To create a model that will be able to recognize and determine the handwritten digits from its image by using the concepts of Machine learning

▶ Requirements

- MNIST Dataset to analyze values and provide predictions

- Integrated Development Environment(IDE)

- Jupyter Notebook

FLOWCHART

AI DESKTOP VOICE ASSISTANT FOR VISUALLY IMPAIRED

- The project aims to develop a personal-assistant. This assistant draws its inspiration from virtual assistants like cortana for windows, and siri for ios. It has been designed to provide a user-friendly interface for carrying out a variety of tasks by employing certain well-defined commands. Users can interact with the assistant either through voice commands or using keyboard input.

▶ **Objectives**

- To provide the Users with a Virtual Assistant that would not only aid in their daily routine tasks like searching the web, extracting weather data, vocabulary help and many others but also help in automation of various activities.

- To use Machine Learning for training the program.

▶ **Problem Statement**

   To implement an AI desktop Voice Assistant that will be able to perform certain automated tasks by using the concepts of Machine learning and Artificial Intelligence.

▶ **Requirements**

- Microsoft developed speech APIs

- Google Voice APIs
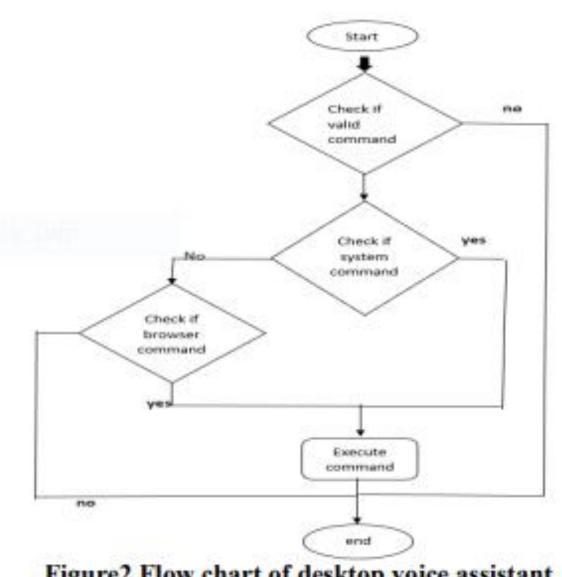
- Integrated Development Environment(IDE)

- Code Editor – VS Code

FLOWCHART

Figure2.Flow chart of desktop voice assistant

THANK YOU