Speech Emotion Recognition

By:-

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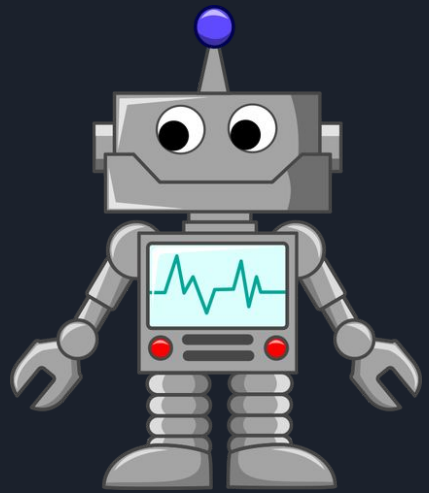
Introduction

What makes us different from machines?



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Introduction

What makes us different from machines?

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Introduction

"*The best and most beautiful things in the world cannot be seen or even touched. They must be felt with the heart*."

- Helen Keller

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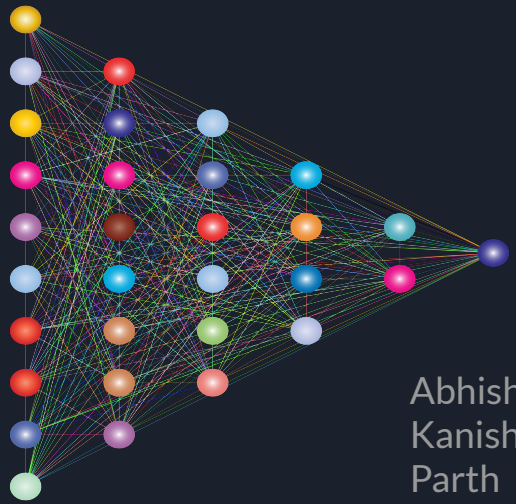

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SER

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What is SER ?

- SER stands for Speech Emotion Recognition
- Aims to recognize the underlying emotional state of speaker

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Project objective

- Build an end-to-end hardware-software solution
- Extracts features such as pitch, loudness, spectrum, and speech rate
- Recognize the emotions of the speaker through voice in real-time
- Provide a suitable response.

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Possible Challenges

- Select a good emotional speech database
- Extract effective features
- Design reliable classifier using ML/DL algorithms
- Integrate everything into a single entity

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Dataset

- RAVDESS Dataset
- Ryerson Audio-Visual Database of Emotional Speech and Song
- 7356 recording created by 24 professional actors
- Includes calm, happy, sad, angry, fearful, surprise, and disgust expressions

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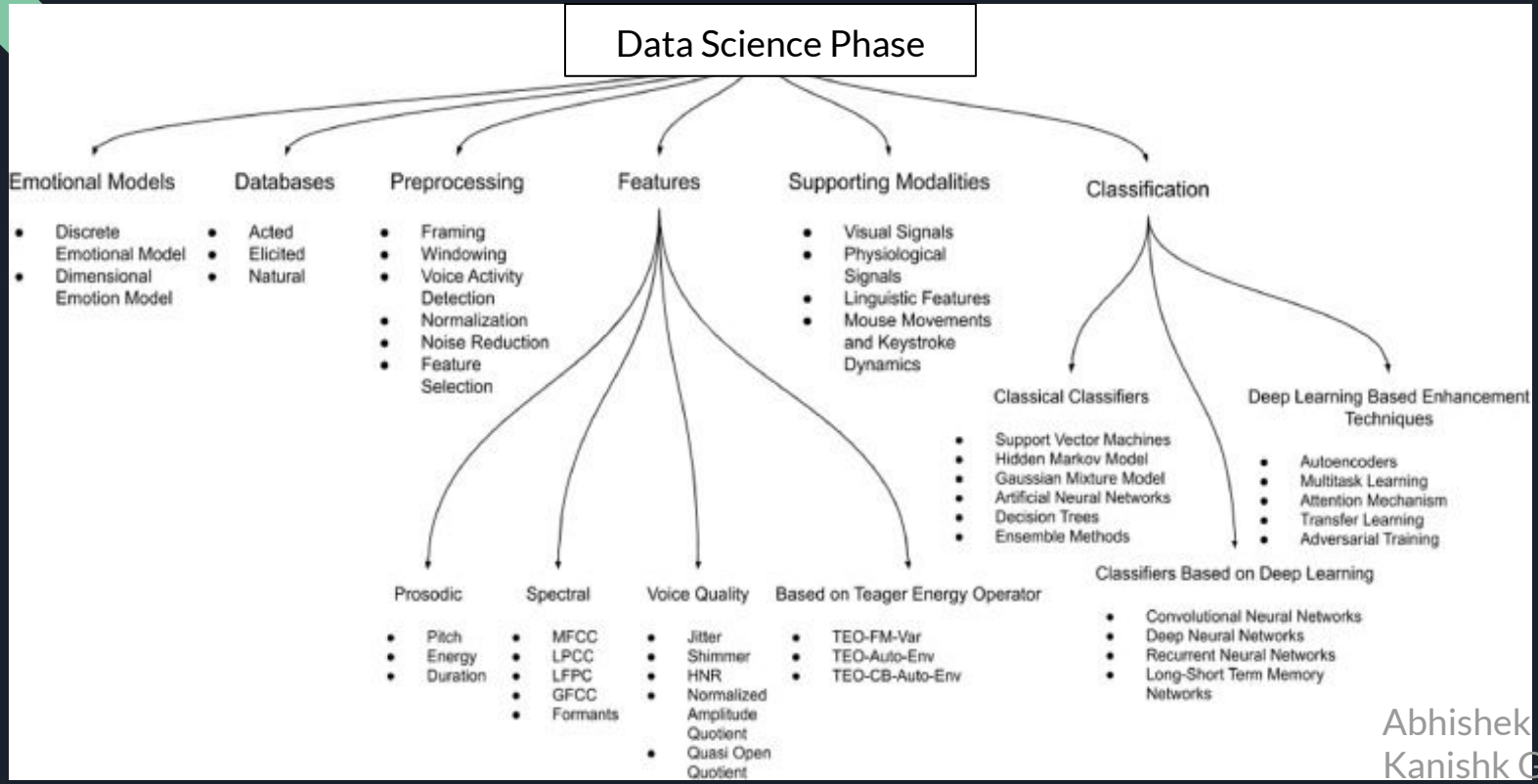
Overview of Data Science Phase



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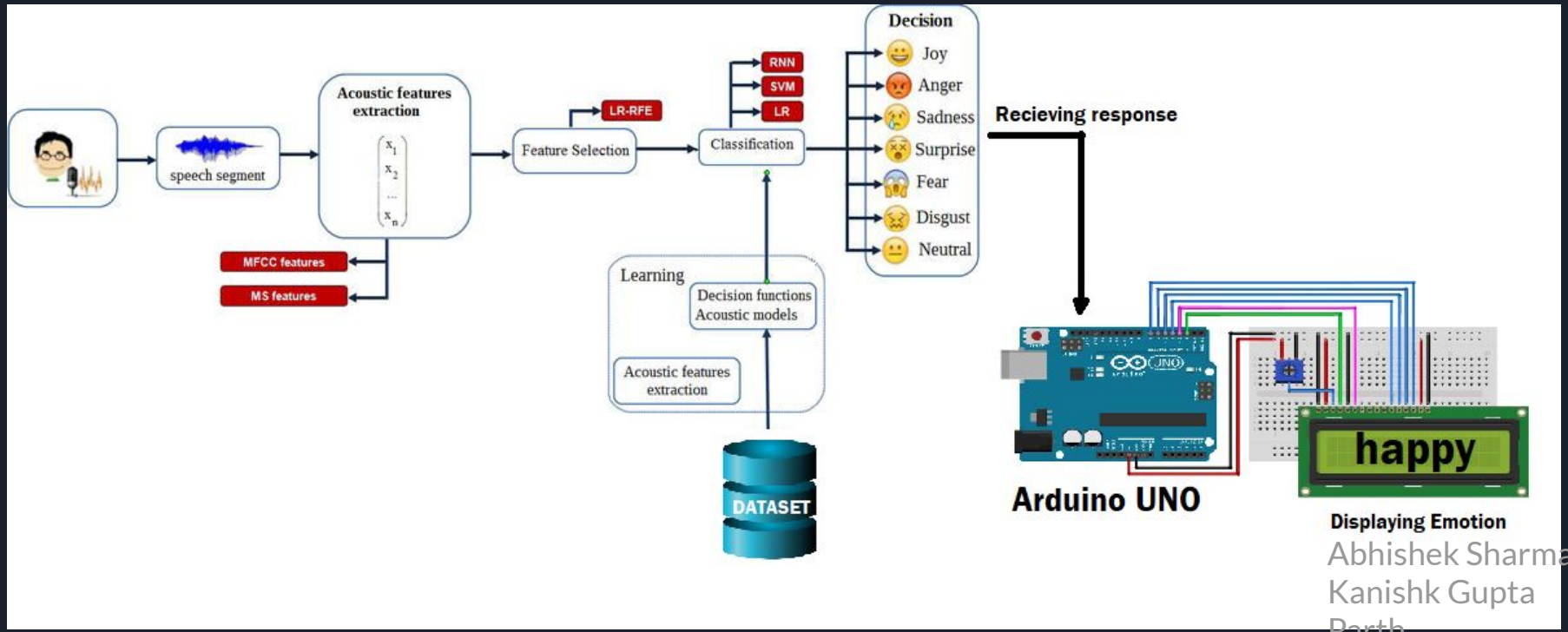
Source: https://www.sciencedirect.com/

Project Pipeline



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HARDWARE

- Arduino or Genuino Board
- LCD Display Unit
- pin headers to solder to the LCD display pins
- 220-ohm resistor
- Jumper wires
- Breadboard

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TOOLS \ MATERIALS

- JupyterLab
- Numpy
- Pandas
- TensorFlow
- Keras
- Librosa
- Tkinter
- ReactJS
- Dataset
- Arduino IDE

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Thank You

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