GTU COMPUTER ENGINEERING AGE PREDICTION FROM FACE USING DEEP LEARNING MODEL

CSE 495
PRELIMINARY PRESENTATION

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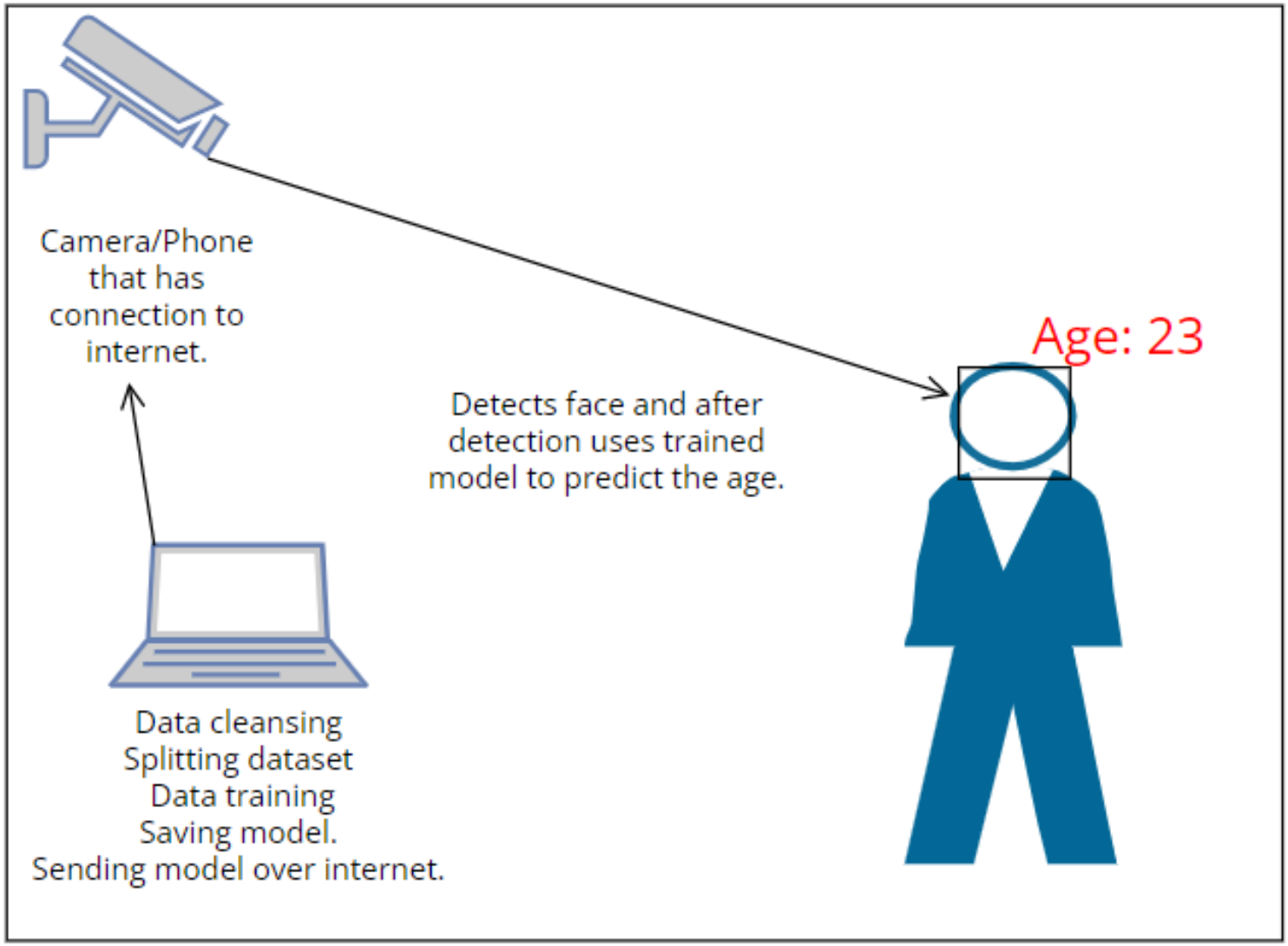
Project Schema and Description

- Predicting age from face by taking a photograph of the person.
  - Detecting the face
  - Labelling the Person Using a Deep Learning Model

- Taking a picture of the person will be used to prevent selling tobacco products / alcohol to underaged people in marketplaces and other stores.

Project Design Plan



Project Requirements - 1

- Gathering different datasets.
- Cleansing datasets if it contains unnecessary data.
- Splitting datasets into training and test data.
- Finding suitable algorithms that detects the face features.
- Creating/updating model using different layers and activation functions.
- Training the faces with multiage pictures of people.
- Sending model over the internet to camera device for prediction.
- Detecting face and using photo as input in the model.
- Detecting the age of person using a mobile application for testing.

Project Requirements - 2

- Programming Languages: Python, Java
- Libraries: Pandas / OpenCV/ Pytorch / Tensorflow / Keras
- Computer with a good GPU for faster training.
- Database access
- Phone/Camera for detection
- Different facial image datasets on internet.
- Different face photos of people for validation data by mutual consent.

Success Criteria

1. Accuracy value over 85% using model for a dataset over 15000 values.
2. Detection should be made at most 5 seconds.
3. Accuracy value over 75% using different model using transfer learning and different color channels.

Timeline

1st Meeting (Preliminary Presentation)	October 26, 2022, Wednesday
– Gathering datasets, creating model.	
2nd Meeting	December 07, 2022, Wednesday
– Training, model fixes on project.	
– Creating application for testing.	
Report Submission	January 15, 2023, Sunday
Trailer Submission	January 15, 2023, Sunday
3rd Meeting (Final Presentation)	January 18, 2023, Wednesday
Demo	January 19, 2023, Thursday

References

1. Yonghao He, Dezhong Xu, Lifang Wu, Meng Jian, Shiming Xiang, Chunhong Pan, “LFFD: A Light and Fast Face Detector for Edge Devices”, April 2019
2. Jeff Heaton, “Applications of Deep Neural Networks with Keras”, September 2020