SURESH ANGADI EDUCATION FOUNDATION'S
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(Approved by AICTE, New Delhi &Affiliated to Visvesvaraya Technological University, Belagavi, Accredited by NAAC)
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

"DEEP FAKE DETECTION USING DEEP LEARNING"

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CONTENTS:

1. INTRODUCTION TO TOPIC :

In the world of ever growing Social media platforms, Deepfakes are considered as the major threat of the AI. There are many Scenarios where these realistic face swapped deepfakes are used to create political distress, fake terrorism events, revenge porn, blackmail peoples are easily envisioned. Deep fakes are digitally manipulated videos, audio, or images that appear deceptively real, often created with the aid of artificial intelligence. Deep fakes have significant societal, political, and ethical implications, including their potential to spread misinformation, defame individuals, and erode trust in media and public figures.

2. PROBLEM STATEMENT :

Problem: Design and implement a deepfake detection system capable of distinguishing authentic videos from deepfake videos that involve facial manipulation. This system should identify manipulated faces, thereby mitigating the harmful effects of deepfake technology.

3. OBJECTIVES :

- Identifying Manipulated Media: The primary goal is to develop deep learning models that can accurately distinguish between authentic and manipulated media content, such as videos, images, and audio, to prevent the spread of misinformation and fraudulent material.

- Enhancing Media Authenticity: To ensure the integrity and authenticity of digital content, deepfake detection aims to create robust models that can effectively identify deepfakes, thus preserving trust and reliability in media consumption.

4. ARCHITECTURE DIAGRAM :

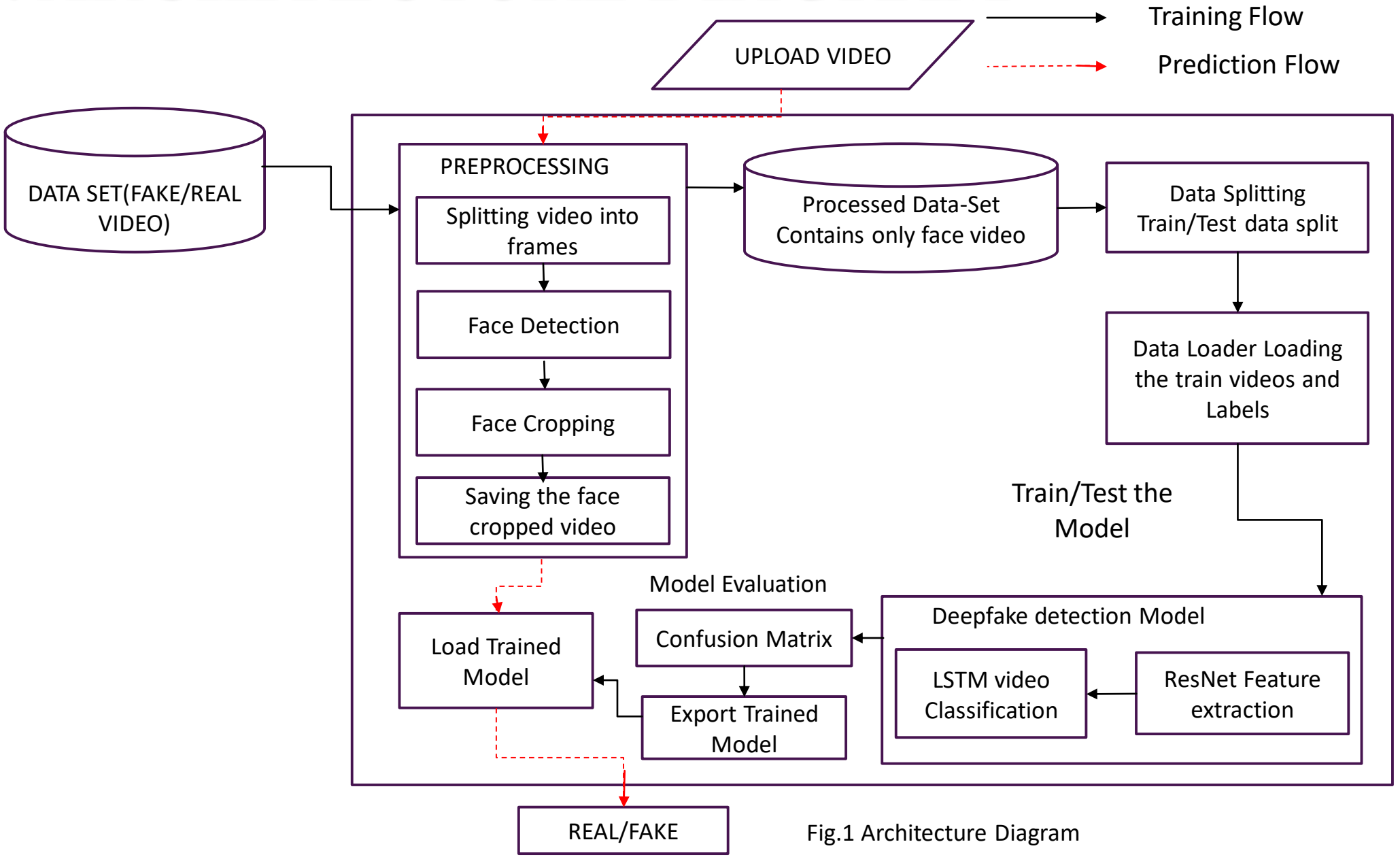

Fig.1 Architecture Diagram

5.USECASE DIAGRAM :

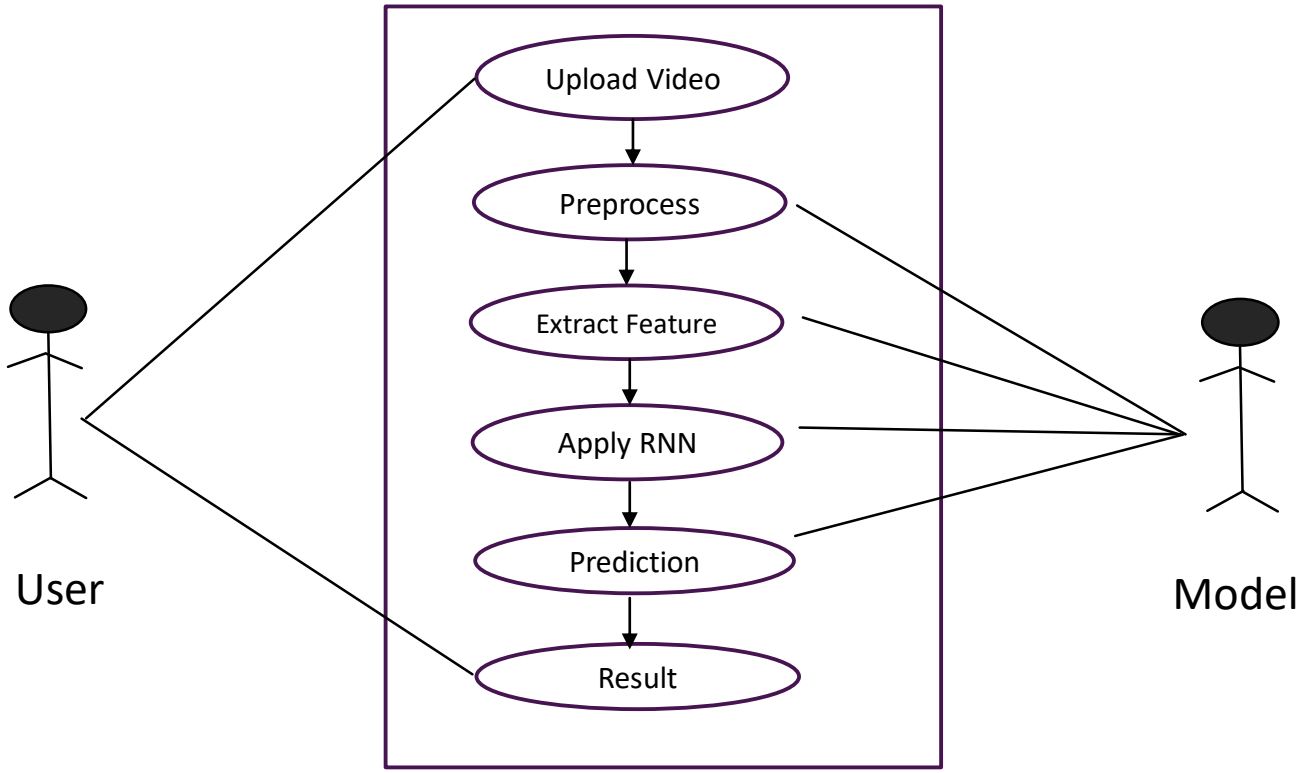

Fig.2 Usecase Diagram

6.BLOCK DIAGRAM :

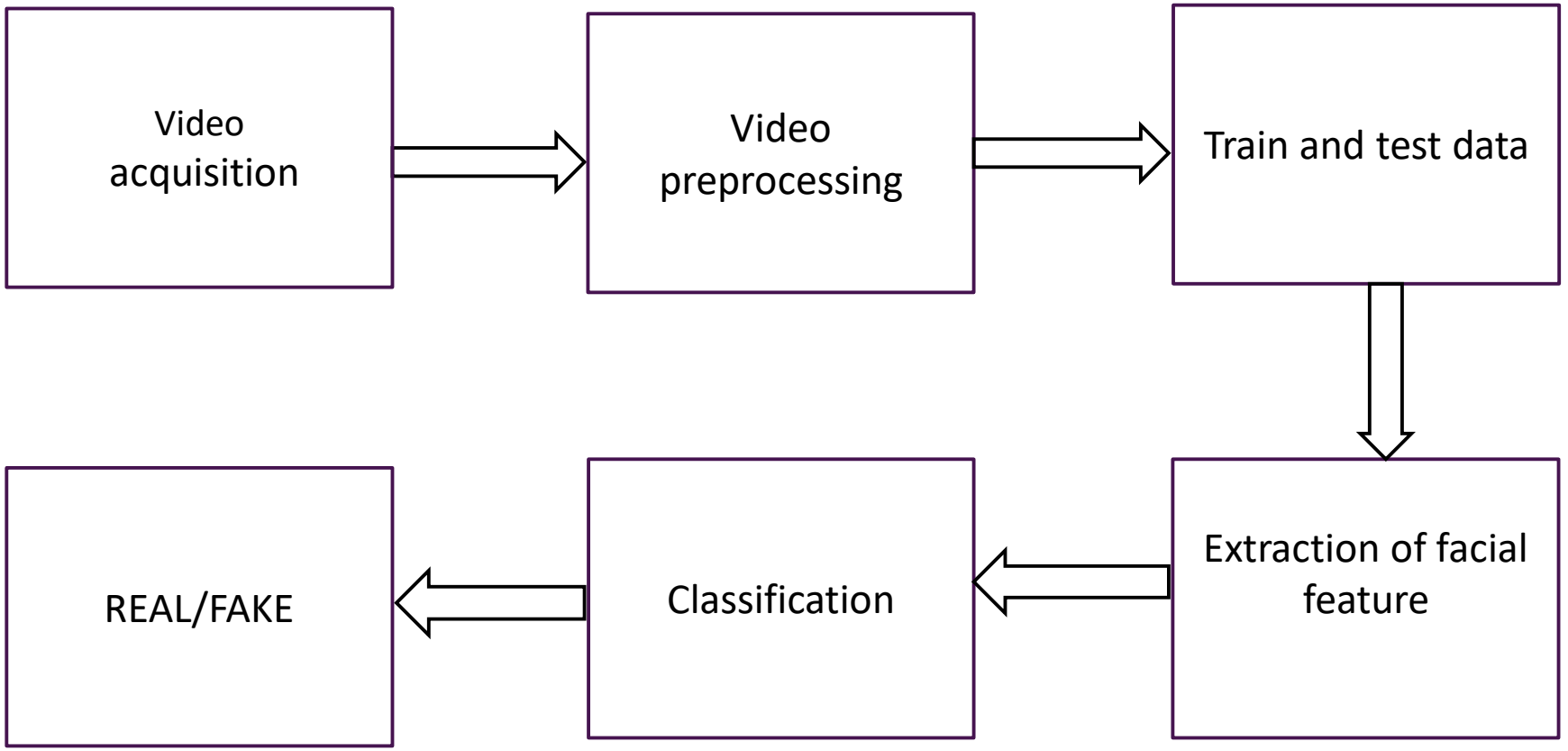

Fig. 3 Block Diagram

7.ACTIVITY DIAGRAM:

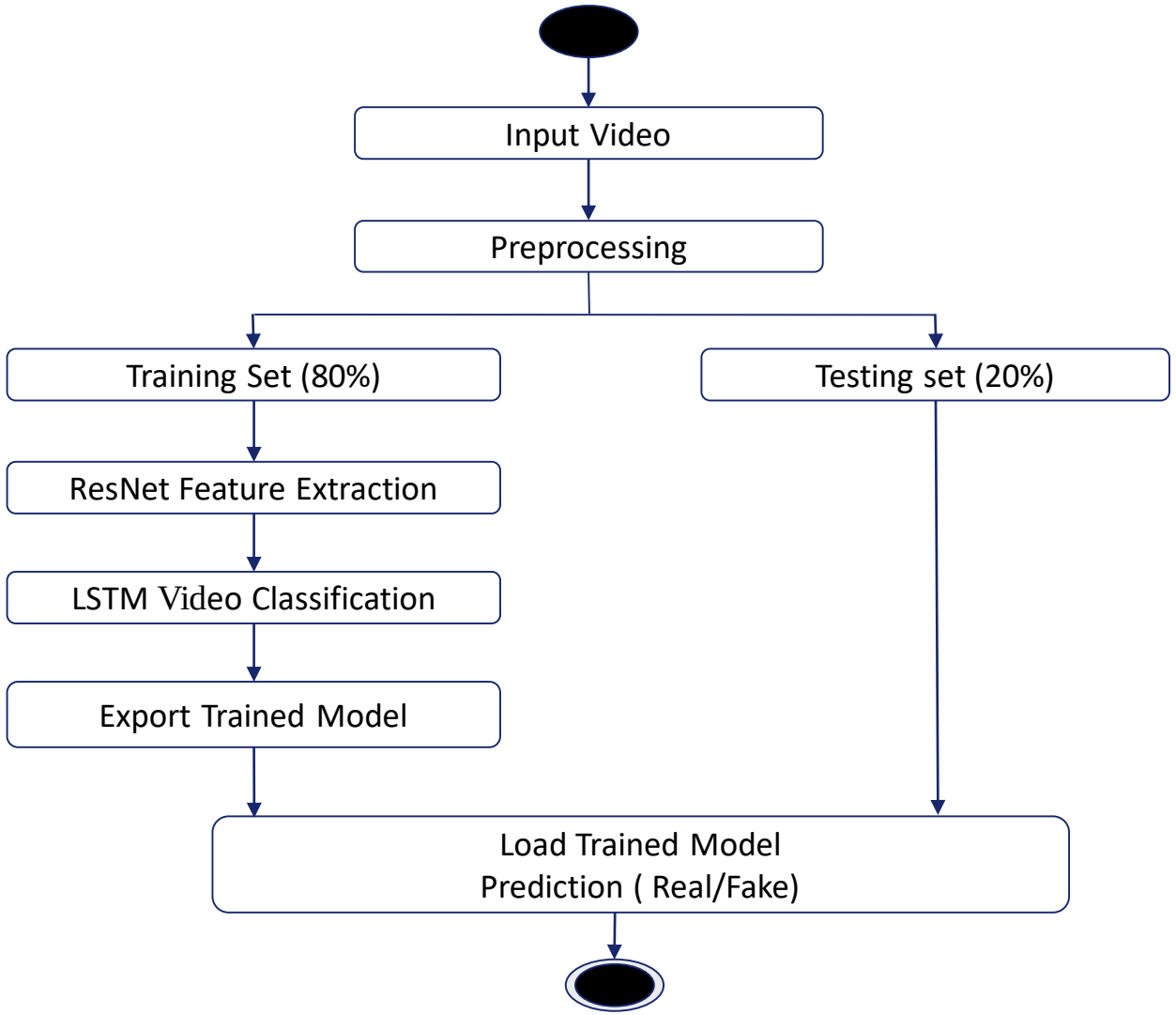

Fig.4 Activity Diagram

6. ACTIVITY DIAGRAM :

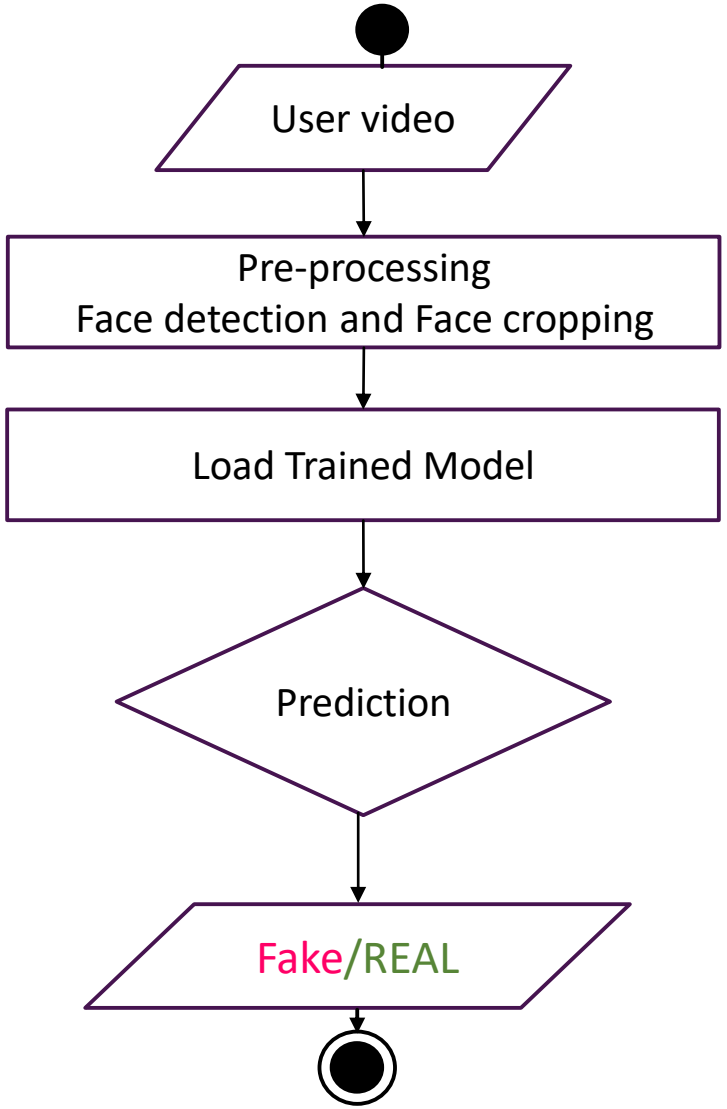

Fig .5 Prediction Flow

8.1. DATAFLOW DIAGRAM :

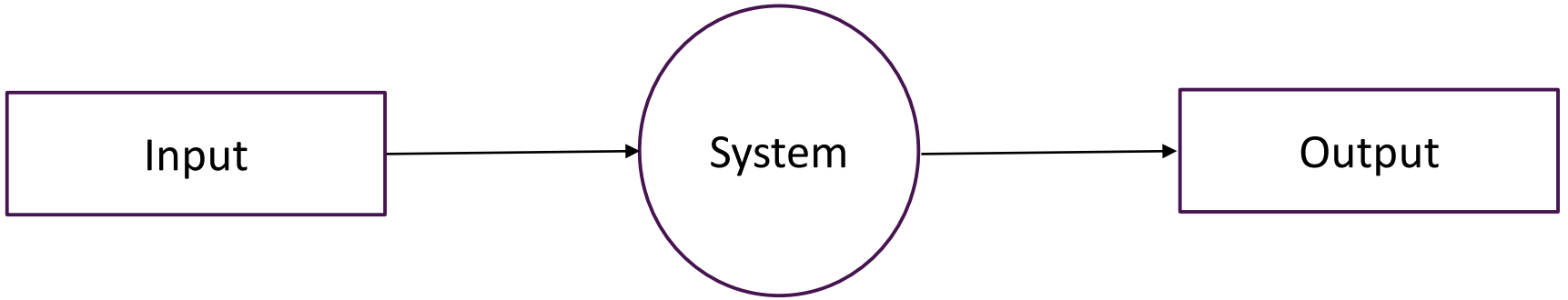

Fig .6 Level 0

8.2 DATAFLOW DIAGRAM :

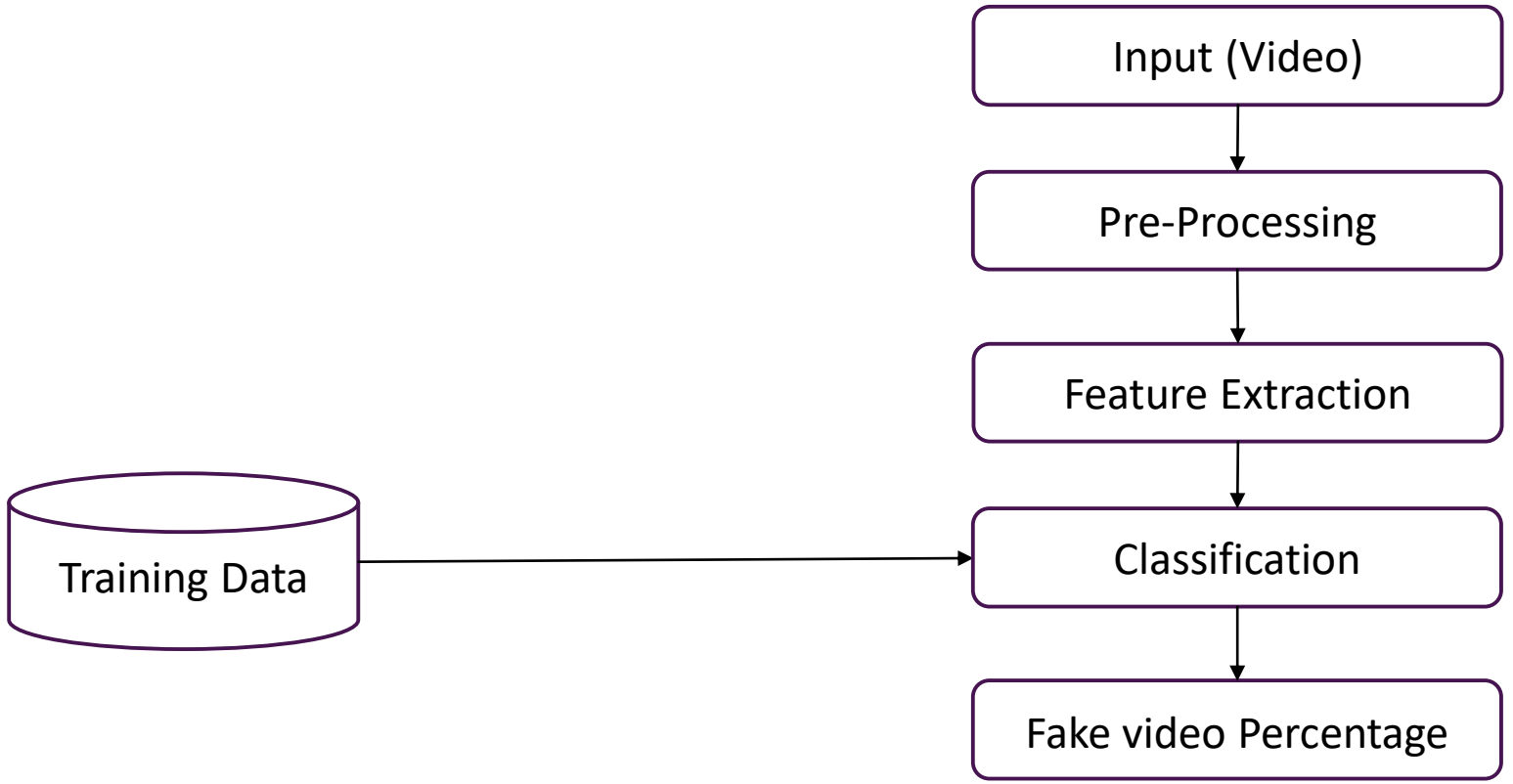

Fig .7 Level 1

8.3. DATAFLOW DIAGRAM :

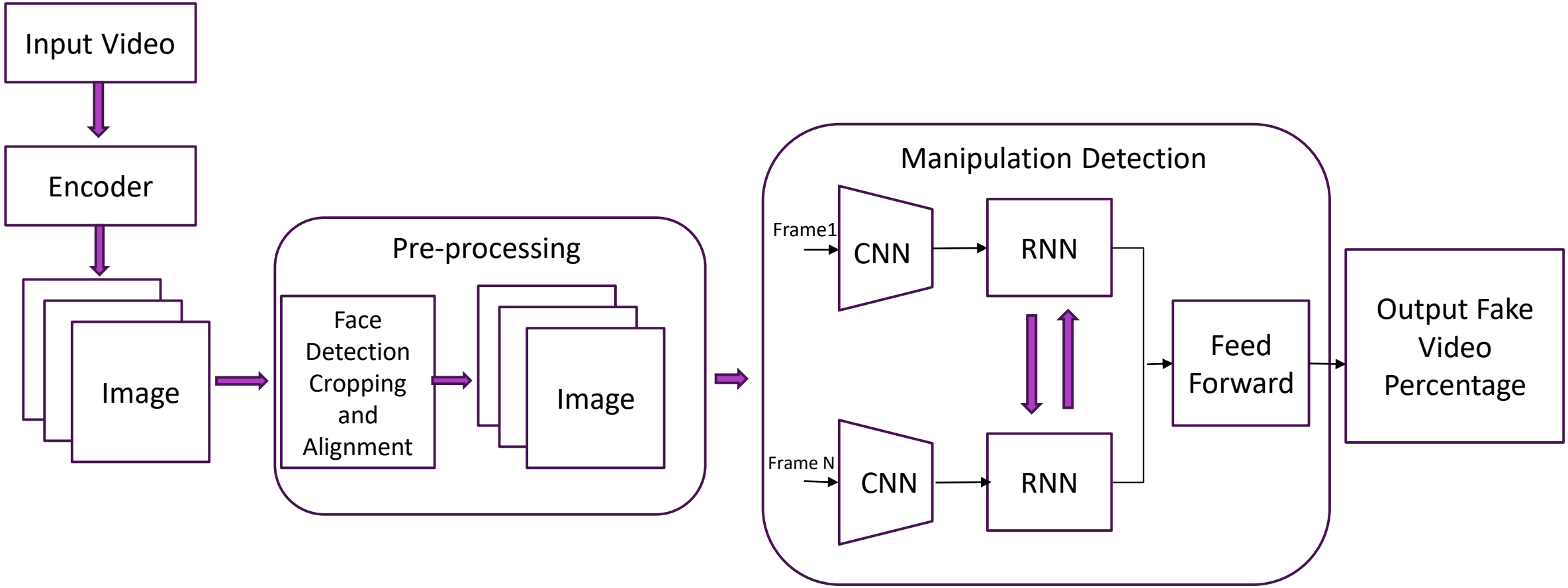

Fig .8 Level 2

7. SEQUENCE DIAGRAM :

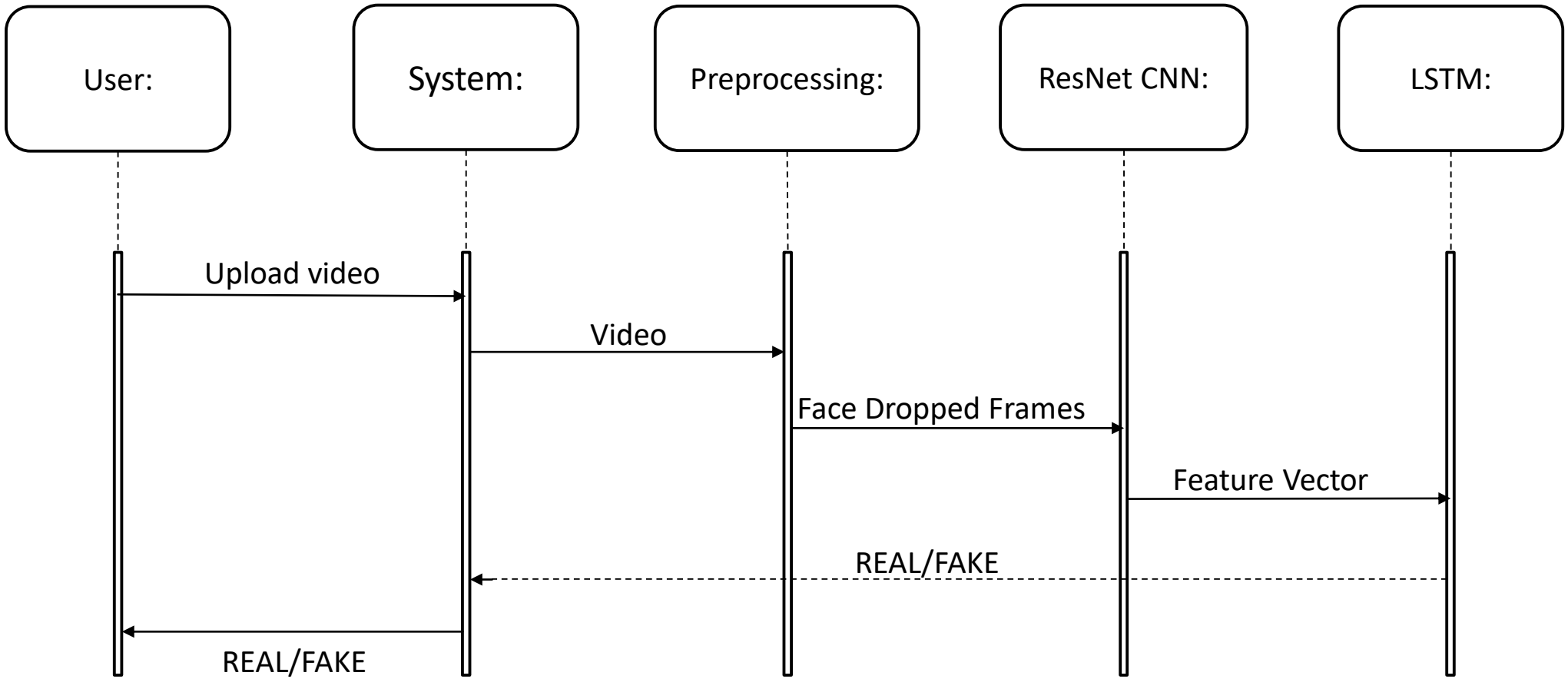

Fig .9 Sequence Diagram

9. CONCLUSION

DeepFake detection is a major need in today's world and needs considerable detection techniques as detecting deepfakes will become more challenging in the future. As deepfakes can have major social and political impact improvements should be made continuously in its detection techniques. For improving the performance, further research can be done on detecting temporal and audio discrepancies and then using this combined information with features extracted from image processing module. The authors hope that the presented techniques for analysis on deepfakes will pave the way for further works research in the field of image & video forgery and digital media forensics.

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THANK YOU