

# Detection of Un-Realistic Image-Caption Pair Using Artificial Intelligence

Komal Krishna Mogilipalepu



# Problem Formulation

- Artificial Intelligence can generate un-realistic images and text as close to the natural image and text.
- Problem: Fake news detection in social media.

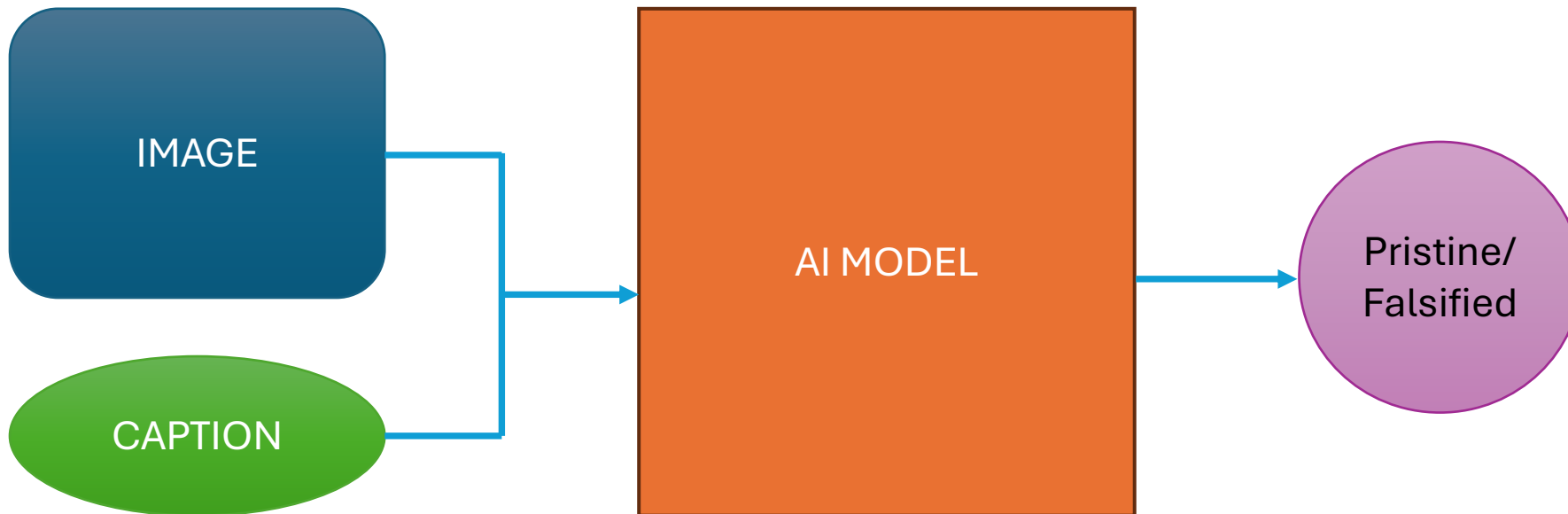


Caption: Donald Trump having dinner with Sonia Gandhi.

<https://openart.ai/create?prompt=Donald+Trump+having+dinner+with+Sonia+Gandhi&tab=generation>

# Solution Using Artificial Intelligence

- Dataset: NewsClippings – 70000 training, 7000 validation, and 7000 testing pristine and falsified image-caption pairs.



# Artificial Intelligence Model

## ➤ Gathering Evidence – From Online sources

- ❖ For a given query image, collect the corresponding text,
- ❖ For a given query caption, collect the corresponding images.

## ➤ Checking Evidence – Using Deep Learning models

- ❖ Visual Reasoning,
- ❖ Textual Reasoning,
- ❖ Image-Text Reasoning.

## ➤ Classifier

- ❖ Combine the three reasonings and predict as Pristine or falsified.

Abdelnabi, S., Hasan, R., & Fritz, M. (2022). Open-domain, content-based, multi-modal fact-checking of out-of-context images via online resources. In *Proceedings of the IEEE/CVF conference on computer vision and pattern recognition* (pp. 14940-14949).

Thankyou!