

This folder consists of following files:

1. Resume
2. MIMIC Dataset Paper (CVPR'24 Submission)
  - a. I worked on this research this year(2023) with Dr. Bryan Plummer.
  - b. This research is on image manipulation detection where we introduce a dataset with over 261,000 images from diverse sources and covering at least eight topic categories. The dataset is unique in including rich contextual elements, like textual captions, to enhance image manipulation detection methods.
3. Synthetic Media Attribution (Report)
  - a. I worked on this research with Dr. Kate and Dr.Bryan from May2022-October2022. This was as a part of Semafor competition by DARPA.
  - b. In this research we developed a technique for attributing synthetic images to their generating models without prior knowledge of manipulation methods. It utilizes a multi-head classifier with a ResNet-18 backbone, combined with an adversarial strategy to obscure subclass information.
4. Text Guided Image Manipulation Detection
  - a. I worked on this research with Dr. Bryan Plummer from Jan 2022 - May 2023. We tried to publish this to neurIPS for this year, but we weren't able to get results as expected and so we couldn't publish that time (MIMIC is a follow up for this research where we curated a dataset that we needed for our further experiments).
  - b. This research introduces the Text-Conditioned Manipulation Detector (TCMD), a novel task for detecting manipulated regions in images, guided by associated textual context like captions or tags. We tried to build a model that improves the accuracy of manipulation detection by integrating image and text information, proving effective even when the textual content is unrelated to the manipulation. Though we did not get the expected results, this approach has great potential to be a good detection model.
5. I have included my Research Statement DRAFT (I understand this draft is 4 pages long, I am working to make it compact and better). Please give me any suggestions!

Overall about me:

I am Divya and I did my master's in AI at BU from Sept 2021 - January 2023. My research interests are broadly in Computer Vision and Multimodal AI and in applications in this domain. I have some research experience in this area that I stated above. I want to pursue a PhD for the following reasons:

1. I love research
2. I want to have ownership and autonomy over my work
3. I want to gain the right expertise to be able to pursue a career that I want in my future

Thank you!