Final Project Proposal

Title: Masked Face Dataset Generation and Masked Face Recognition

Participants: Rui Cai, Xuying Ning

Description of the project:

In the post-pandemic era, wearing face masks has posed great challenge to the ordinary face recognition. In the previous study, researchers has applied pre-trained VGG16, and ResNet50 to extract features on the elaborate curated existing masked face recognition(MFR) datasets, RMFRD and SMFRD. To make the model more adaptable to the real world situation where the sample size is smaller and the camera environment has greater changes, we curated a more challenging masked face dataset ourselves, by selecting 50 identities with 1702 images from Labelled Faces in the Wild (LFW) Dataset, and simulated face masks through key point detection. Another part of our study, solving MFR, we chose models by referring to the former study's state-of-art results, instead of directly using pre-trained models, we will fine-tune the model(InceptionResnetv1, ResNet50 and Vgg16)on our new dataset and use the last linear layer to do the classification directly.

Dataset:

Labelled Faces in the Wild (LFW) Dataset

Target:

We are trying to build some novel architecture based on our knowledge. The result is

unknown yet.