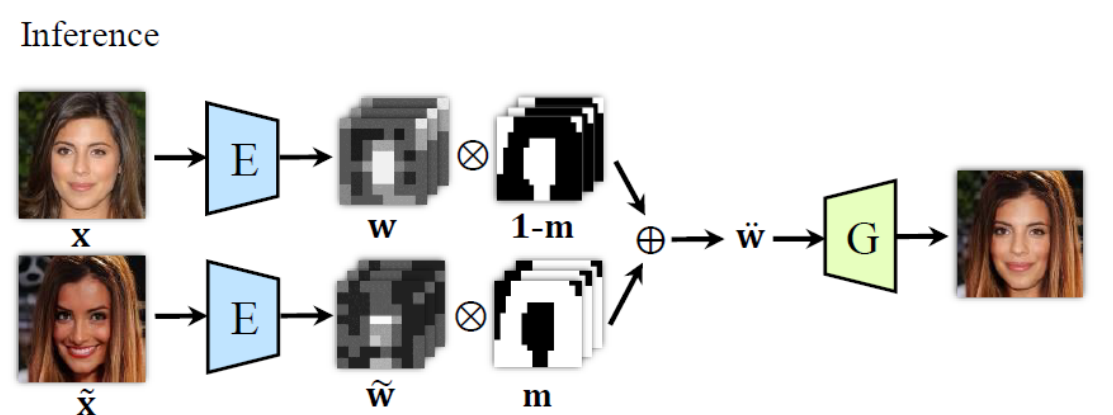
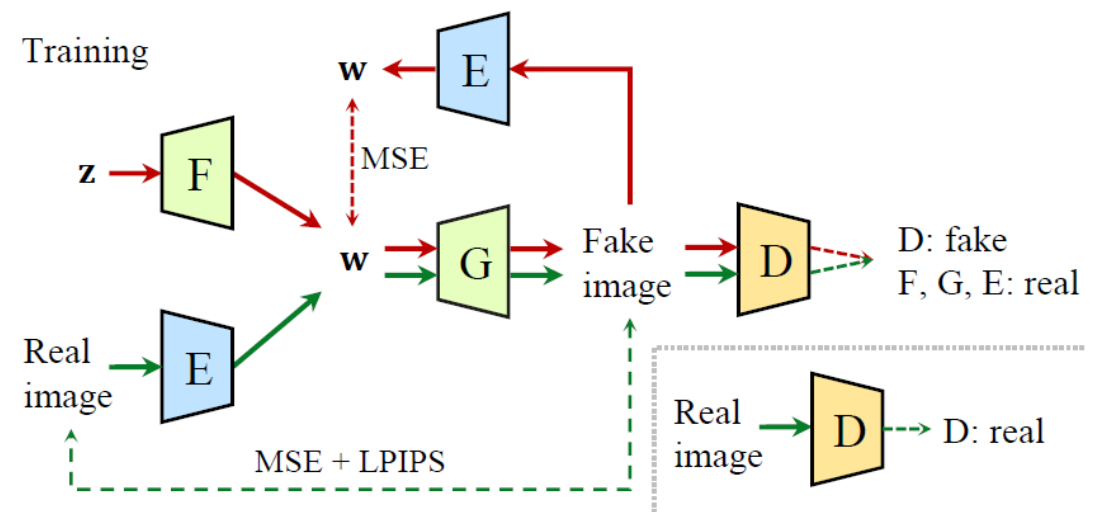
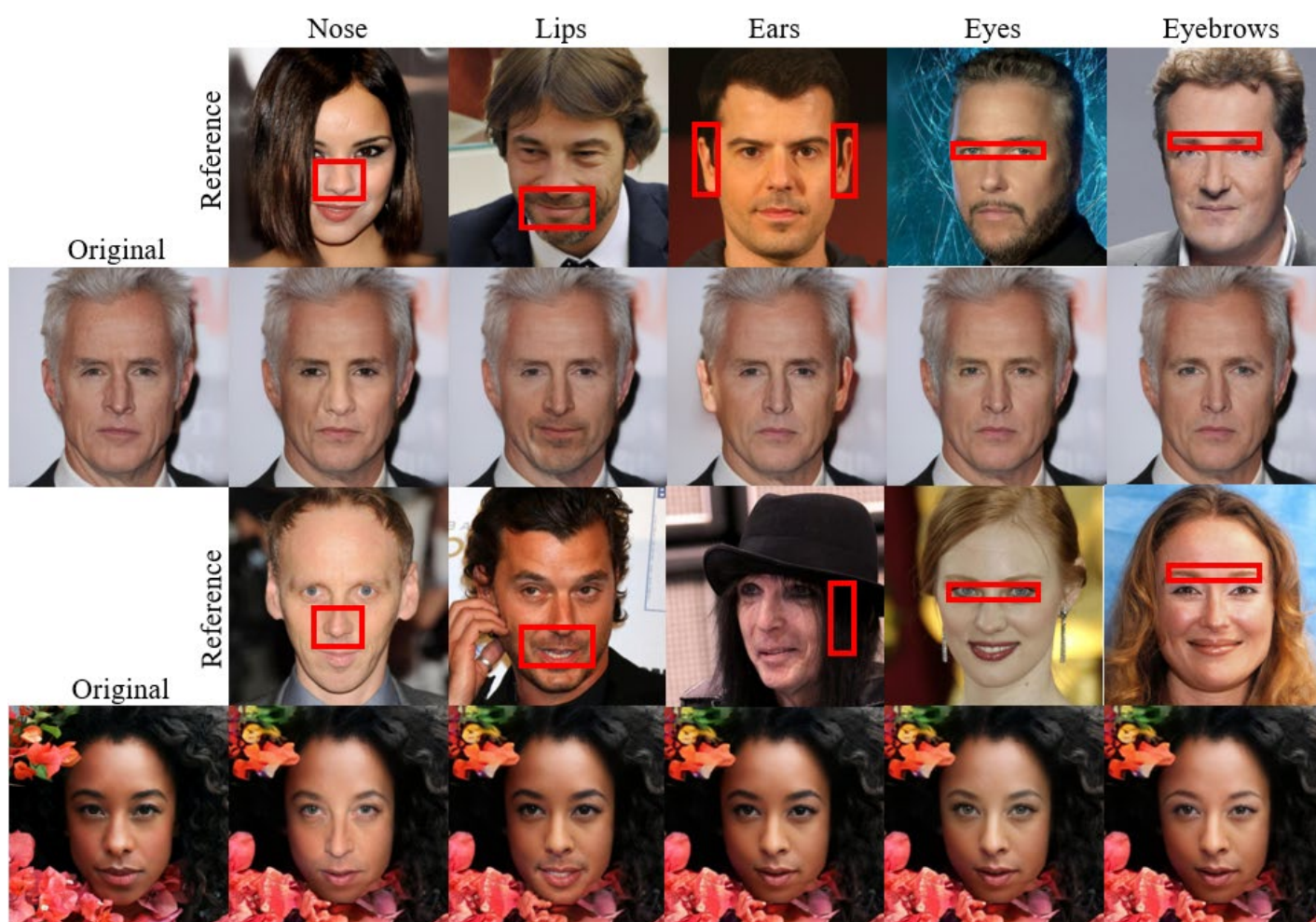


# Towards Superior Control in Automatic Face Editing with Generative Adversarial Networks

**SCSE21-0207**

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## Project Objectives:

Generative Adversarial Networks (GANs) have been widely used in image manipulation tasks such as local editing and image interpolation. This project examines StyleMapGAN, a novel approach that evolves from StyleGAN by replacing AdaIN with intermediate latent space carrying information on spatial dimensions, hence capable of performing high-quality local editing. In addition, by introducing a BiSeNet-based face parsing model, this project develops a fully automated process in local editing of human faces that only takes a few seconds. This project demonstrates that the face parsing model outputs masks that rivals manually labelled face datasets. Furthermore, this project explores more controls in local editing by introducing a pair of unaligned masks during stylemap mixing in  $W+$  space in the generator. Local editing with interpolation is achieved and a demo application is developed to demonstrate the local editing process.

Any machine connected to NTU network is able to use the demo application as long as the flask script is running.  
Address: 10.88.75.90:6006

After all the selection is done, press here to generate the result.

**Demo: SCSE21-0207**

Towards Superior Control in Image Editing with Generative Adversarial Networks

Reference Image: [Image of a woman's face]

Original Image: [Image of a woman's face with a hat]

Generated Result: [Image of the woman's face with the hat and reference style]

Selected Reference Images: [Image]

Selected Local Editing Area: Lips (2)

Selected Dataset: CelebA-HQ (3)

Sample Images: [Image] (.16.png) (4)

Buttons: add to reference (5), add to original

Annotations: (1) Browser address bar, (2) Local editing area dropdown, (3) Dataset dropdown, (4) Sample image filename, (5) Add to reference button, (6) Add to original button, (7) Interpolation slider.

After pressing the "add to reference" button the image will be displayed here.

Users need to select the desired images and press the "add to reference" and "add to original" buttons.

Slide this bar for interpolation, if interpolation is unavailable, this bar will not appear.

Press here to select the area to perform local editing and dataset.