

BASIC DETAILS OF THE TEAM AND PROBLEM STATEMENT

Problem Statement Title: Celebrity Face Generation-generating celebrity face based on given features

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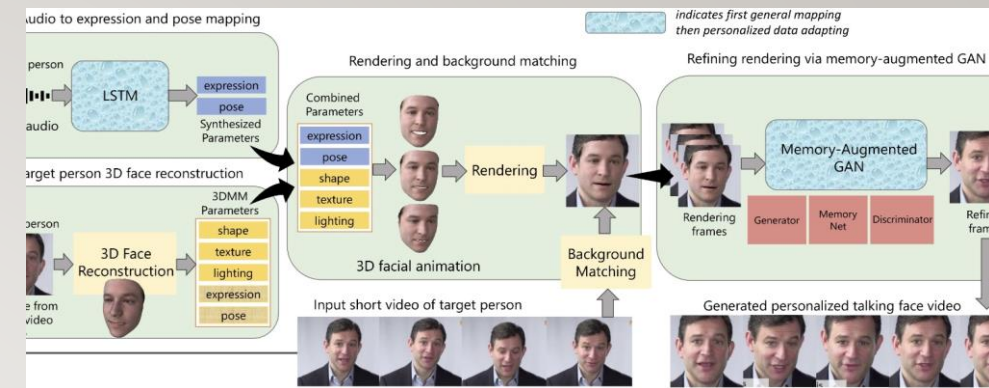
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IDEA/APPROACH:

- The Celebrity Face Generation project systematically creates realistic celebrity faces based on provided features. It begins by collecting a diverse dataset from public sources or databases like CelebA or VGGFace, followed by preprocessing to ensure uniformity and quality. Feature extraction identifies key facial characteristics, aiding in model training
- Deep learning models, particularly Generative Adversarial Networks (GANs) or Conditional GANs (cGANs), are chosen for face generation. Training involves parameter optimization and hyperparameter tuning to enhance performance. Evaluation employs qualitative and quantitative metrics like Inception Score or Frechet Inception Distance (FID) to assess image quality and diversity. The trained model is then deployed into a user-friendly interface, allowing users to input desired features and generate corresponding celebrity faces in real-time. The interface, developed using web technologies or desktop GUI frameworks, ensures scalability and usability.
- In summary, the Celebrity Face Generation project offers a comprehensive solution for creating realistic celebrity faces, catering to applications in entertainment, virtual avatars, and personalized content creation. The project facilitates the generation of diverse and lifelike faces tailored to user specifications.



Technology stack :

- Python serves as the primary programming language, with deep learning libraries like TensorFlow or PyTorch utilized for model development and training.
- Data preprocessing is performed using libraries such as OpenCV or PIL.
- The model is often deployed using web frameworks like Flask or Django, allowing users to input desired features through HTML forms. JavaScript and CSS may enhance the user interface for a more interactive experience. Deployment is done on cloud platforms like AWS or Google Cloud for scalability and accessibility.

IDEA/APPROACH DETAILS

Use Cases:

- The Celebrity Face Generation project, focusing on creating celebrity faces based on provided features, has diverse applications in the entertainment sector, it offers the opportunity to enhance user engagement through personalized avatars in gaming, virtual reality experiences, and social media applications.
- Marketers can leverage generated celebrity faces for targeted advertising campaigns, boosting brand engagement and sales.
- Moreover, in the fashion and beauty industry, virtual models with customized features can showcase products, enabling virtual makeup trials and personalized styling recommendations for customers.
- In the field of research, this technology aids in studying facial recognition algorithms and cultural perceptions of beauty.
- Additionally, it finds applications in forensic investigations for creating facial composites of suspects and in healthcare for therapeutic purposes.

Dependencies / Show stopper :

- As a competitor in a Celebrity Face Generation competition, my project's success relies on critical dependencies and potential showstoppers. Accurate feature extraction algorithms are crucial to capture nuanced facial characteristics provided as input, ensuring realistic generated faces.
- The choice of the appropriate deep learning model architecture, such as a GAN variant, and the effectiveness of the training process significantly impact the quality of generated faces.
- Additionally, adequate computational resources are necessary for training large-scale models. Choosing appropriate evaluation metrics to assess the realism of generated faces is vital, along with addressing ethical considerations regarding the use of celebrity images and privacy regulations.
- Finally, developing an intuitive user interface for inputting features and displaying generated faces is essential for user engagement. By addressing these challenges through careful planning, research, and collaboration across domains, the project aims to maximize its chances of success in the competition and deliver innovative solutions.

TEAM MEMBER DETAILS

Sr. No.	Name of Team Member	Branch :	Stream:	Year	Position in team
1	Swapnanil Adhikary	B.tech	IT	2nd	Team Leader
2	Soumita Mallick	B.tech	CSE(AI)	2nd	Machine Learning Enthusiast
3	Shrutakeerti Datta	B.tech	CSE(IOT)	2nd	Frontend Developer