

SAURABH PUROHIT

purohit10saurabh@gmail.com; +91-8839670256

Not a very good ML Researcher!

Deep Learning Researcher, [Rephrase.ai](https://rephrase.ai) (GenAI startup recently acquired by Adobe)
Senior Machine Learning Engineer, Adobe

2022-
Present

Created the video generation model responsible for Adobe acquiring Rephrase.ai

- Led and contributed the most to this proprietary talking heads video generation model.

Key novelties

- **Two-stage model:** Combining unsupervised and supervised stages for more expressive faces and more reference frames in inference.
- **Video Attention Layer:** A new attention layer for videos to generate more realistic images rather than animated looking over-smoothed face textures generated by naive attention.
- **Superior Pixel-wise Loss Function:** It acts like SSIM loss on pixel values, its gradient and hessian in image plane. It preserves sharpness better than SSIM loss and lipsync better than perceptual loss.
- **Adaptive Attention Layer:** A way to sufficiently condition the generated image, as concatenating a conditioning token in attention does not provide enough conditioning.

Impact

- Recognized as the best lipsync generation model in comparison to publicly available results, such as those in research papers and Google I/O talking heads demo.
 - Adobe estimated its use for auto dubbing movies will make millions of dollars.
-

(Failed as) Research Fellow, Microsoft Research

2019-2021

Published Generalized Zero-Shot Extreme Multi-label Learning (KDD'21)

- Helped my mentor in developing a novel information retrieval algorithm, resulting in publication.
 - Created extreme scale zero shot research datasets addressing challenges in extreme classification.
 - Did not go for a Phd.
-

Education

- BS in Mathematics and Scientific Computing, IIT Kanpur.

2014-2018

Programming

- Python, Pytorch, Github Copilot.
-

Tourism

- Belgium, Bhutan, Germany, India, Indonesia, Italy, Nepal, Netherlands, Switzerland, Thailand, U.S.