Restora-Flow: Mask-Guided Image Restoration with Flow Matching (Supplemental Material)

Arnela Hadzic[1], Franz Thaler[1,2,3], Lea Bogensperger[4], Simon Johannes Joham[1], Martin Urschler[1]

[1]Institute for Medical Informatics, Statistics and Documentation, Medical University of Graz, Graz, Austria
[2]Division of Medical Physics and Biophysics, Medical University of Graz, Graz, Austria
[3]Institute of Visual Computing, Graz University of Technology, Graz, Austria
[4]Department of Quantitative Biomedicine, University of Zurich, Zurich, Switzerland

{arnela.hadzic, martin.urschler}@medunigraz.at
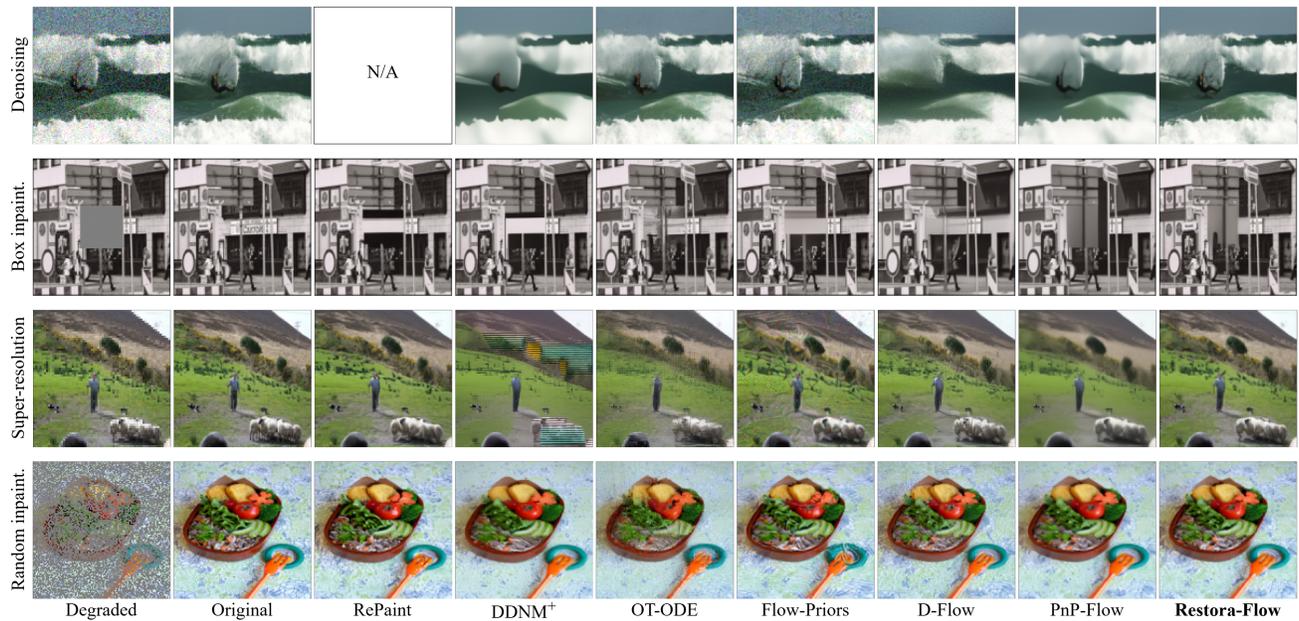
Supplemental Figure 1. Qualitative results on COCO. Shown are the degraded image (col 1), original image (col 2), restored images using related work as indicated (cols 3-8) and restored images of Restora-Flow (col 9). Rows refer to denoising (row 1), box inpainting (row 2), super-resolution (row 3) and random inpainting (row 4). Differences can be best seen in the pdf version.
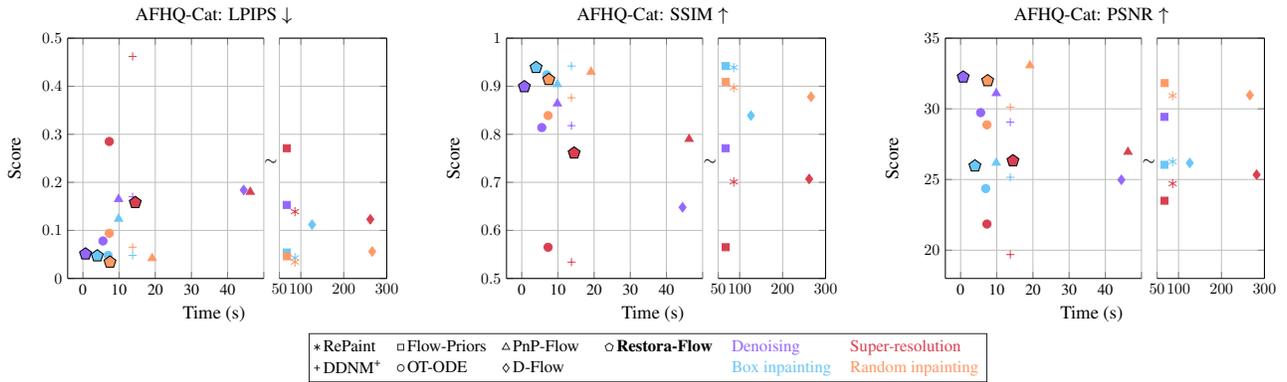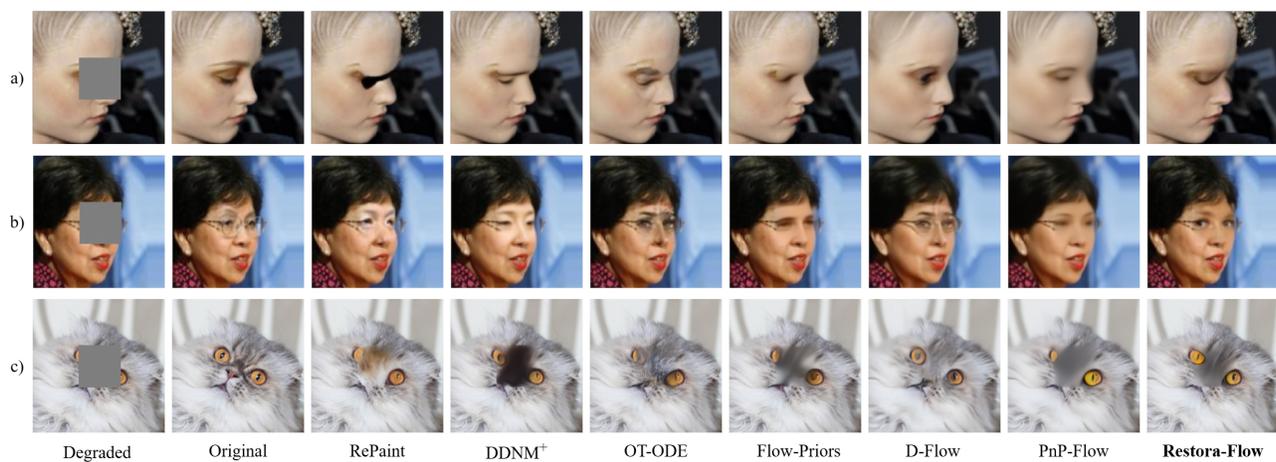
Supplemental Figure 2. Visual representation of quantitative results on CelebA. Restora-Flow (⬠) is compared to related work methods (other shapes) on four different tasks (colors). The plots represent LPIPS ↓ (left), SSIM ↑ (center) and PSNR ↑ (right) on the y-axis, and processing time ↓ (all plots) on the x-axis. For better visualization and comparison, each plot is separated into two parts with different scales in the x-axis.
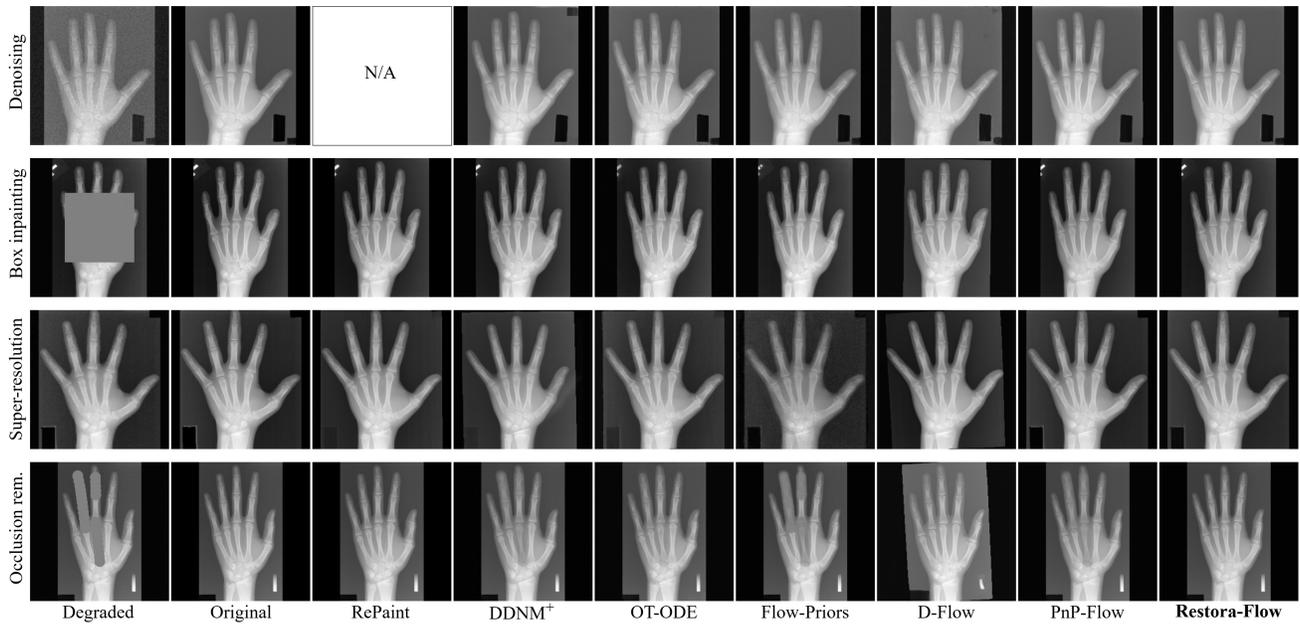
Supplemental Figure 3. Qualitative results on X-ray Hand. Shown are the degraded image (col 1), original image (col 2), restored images using related work as indicated (cols 3-8) and restored images of Restora-Flow (col 9). Rows refer to different tasks as indicated. RePaint is not applicable to denoising (N/A).

| Degraded | Original | RePaint | DDNM$^+$ | OT-ODE | Flow-Priors | D-Flow | PnP-Flow | **Restora-Flow** |
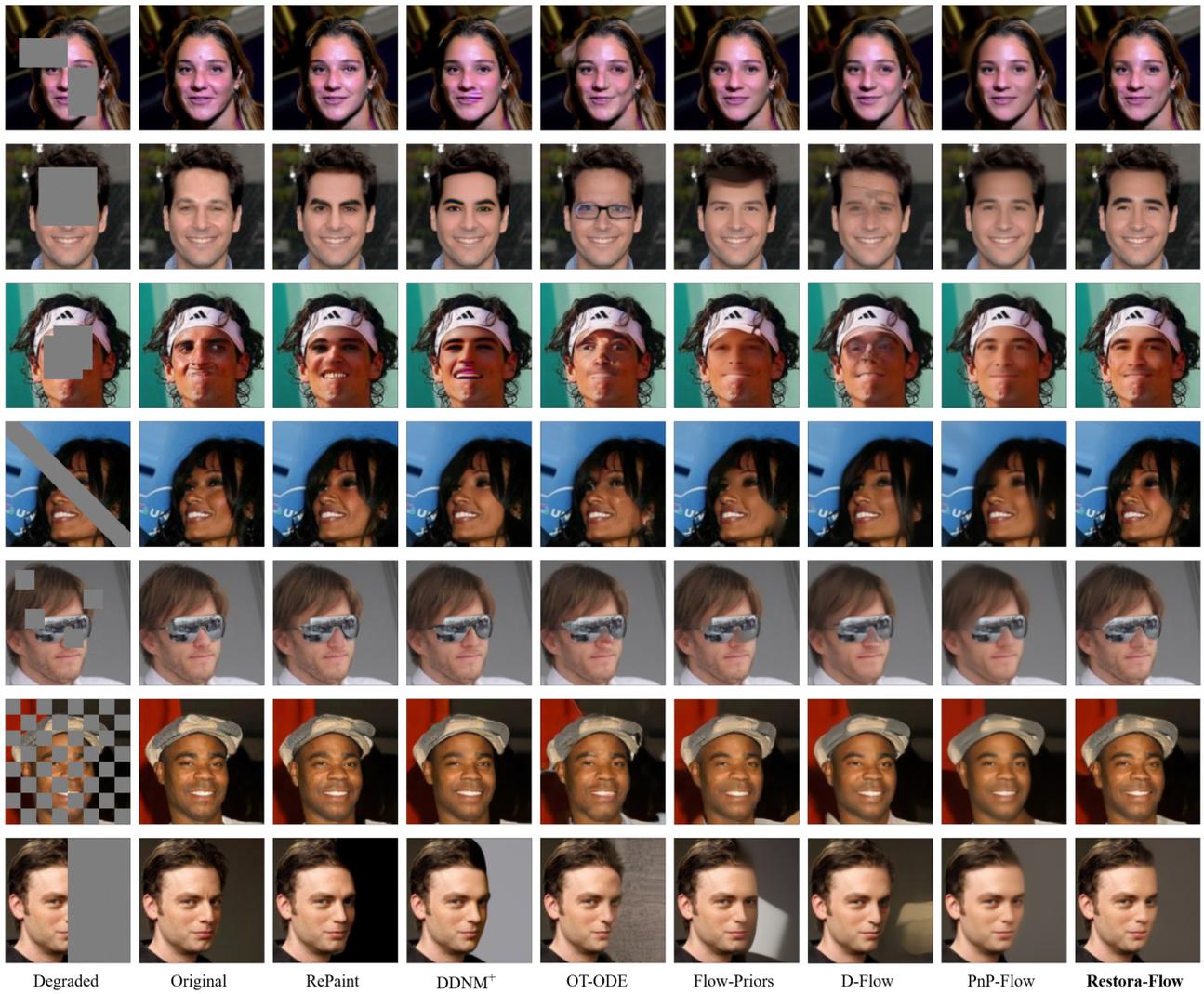
Supplemental Figure 4. Qualitative comparison of image restoration methods on CelebA using various input masks. Differences can be best seen in the pdf version.

Degraded	Original	RePaint	DDNM$^+$	OT-ODE	Flow-Priors	D-Flow	PnP-Flow	**Restora-Flow**

Supplemental Figure 5. Representative failure cases of Restora-Flow and comparison methods. (a) A face in profile view, deviating from the typically front-facing images in CelebA. (b) An example with occlusion due to glasses (CelebA). (c) An atypical AFHQ-Cat image where the cat's appearance differs from typical samples in the dataset (*e.g.*, ears not visible).