Figure 1. **FlowOptimizer:multi-objective results.** Starting from a single source image (left), our method optimizes the latent state in the flow model using the proposed (Δ, u) parameterization. With separate optimization objectives toward Target 1 (top) and Target 2 (bottom), Flow-Optimizer converges to stable basins guided by the frozen velocity field v_θ. The overlap of objectives defines a local optimizable domain (purple), enabling smooth mixtures of attributes from both targets. The figure illustrates direct optimization paths to each target (red, blue) as well as the intermediate solutions when combining objectives, demonstrating FlowMorph's ability to balance multiple goals in a training-free manner.