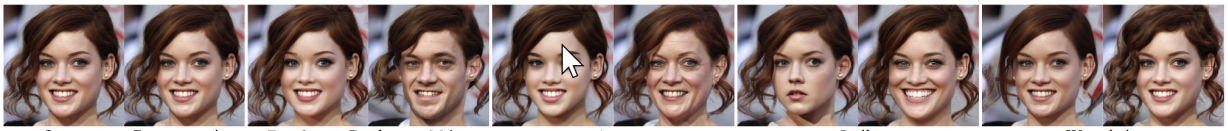
Norwegian Biometrics Laboratory (NBL) is a distinguished research lab contributing actively to the biometrics research across Europe. NBL spans its expertise over physiological and behavioral biometrics including 2D & 3D face, iris, fingerprint, hand vein, gait, keystroke, gesture and mouse dynamics recognition.

Bachelor/Master Thesis
Editing Face Images with Deep Learning

OBJECTIVES & GOALS:

Diffusion models (DMs) achieve state-of-the-art synthesis results on image data and beyond. Recent models have shown impressive results in generating high-quality images and have even been used to generate AI Art. These models can be fine-tuned for certain domains and the guiding process can be used to control the generated images. The goal of this project is to use a diffusion model fine-tuned for generating face images to edit the attributes of a real face image.



[1] K. Preechakul, N. Chatthee, S. Wizadwongsa, and S. Suwajanakorn, "Diffusion Autoencoders: Toward a Meaningful and Decodable Representation," presented at the Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2022, pp. 10619–10629.

TASKS:

- Suggest a novel model or build on top of one of the state-of-the-art models for introducing semantic changes to a real face image.
- Benchmark the suggested model against other state-of-the-art models.

PREREQUISITES:

- High motivation and creativity
- Strong interest in research
- Programming experience

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NOTE: Highly qualified foreign students can get financial support to cover the cost of an internship.