

### Pag 2/3 - Motivation:

Creating virtual experiences that allow us to interact with real and virtual objects indistinguishably has been a long studied problem and it is now a days one of the hottest topics in the industry. In the medical field, and in concrete in the aesthetic medical field, 3D technology is used to compliment the consultations and to improve the communication between doctors and patients. Recently, AR technology has been used to simulate skin treatments on the facial region. While this technology results very attractive for the patients, since it allows to try on procedures in a natural way, the simulation results are still far from looking realistic.

### Pag 2/3 - Objective of the MA dissertation:

In this MA dissertation, we will study image processing techniques that allow us to simulate skin treatments in a photorealistic manner. A part from photorealism, one of the key challenges of the project will be to obtain a light-weight enough solution that can run in real time (~30 fps) on portable devices.

### Pag 2/3 - Details of content, MA dissertation:

- Understanding of the problem and current setup.
- State of the art on generative models.
- Setting up the current baseline and definition of target metrics to optimise.
- Adapting or generating a new dataset to train / evaluate the method.
- Implementation and assessment of the best most promising approaches.
- Report of the results.

### Pag 3/3 - COMPETENCES - GENERAL:

- Accept responsibilities for information and knowledge management.
- Apply the research methodology, choose the techniques and information sources and organise the specific resources for research in the field of computer vision.
- Communicate and justify conclusions clearly and unambiguously to both specialist and non-specialist audiences.
- Plan, develop, evaluate and manage solutions for projects in the different areas of computer vision.
- Understand, analyse and synthesise advanced knowledge in the area, and put forward innovative ideas.

### Pag 3/3 - COMPETENCES - SPECIFIC:

- Working as a part of a large team developing deep learning technology for multiple applications.
- Implementing scalable and maintainable code.
- Designing novel algorithms keeping in mind performance on device.

### Pag 3/3 - Procedure for supervision:

Daily meetings with supervisor in the company and weekly meetings with supervisor in academy.