

NICHOLAS SIMIC

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<https://nicsimic.github.io/>

RESEARCH INTERESTS

Computer Vision, Machine Learning, Optimization, 3D Pose and Motion Estimation, Digital Humans.

WORK EXPERIENCE

Research Engineer

Feb-June 2024

Research Engineer at the Computer Graphics Laboratory (CGL) ETHZ

Disney Research Intern

Jul-Sept 2023

Research Intern for the Digital Human Group at Disney Research Zurich

SELECTED MASTER PROJECTS

3D Face Estimation from a Monocular RGB Image with Dense Landmarks (Thesis)

3D face reconstruction with regression-based dense landmark prediction and parametric model fitting. Implemented in PyTorch, Lightning.

Face Modeling and Learning (Shape Modeling and Geometry Processing)

Face landmarks selection, face alignment, PCA of faces, face space learning using GCNs. Implemented in Python and PyTorch.

Road Segmentation (Computational Intelligence Lab)

Segmentation of aerial images of roads approached using an ensemble of pre-trained Unet architectures and compared with a GAN model. Implemented using PyTorch.

SELECTED MASTER COURSES

Computer Vision

Sep-Dec 2020

Computer Graphics

Sep-Dec 2020

Shape Modeling and Geometry Processing

Feb-Jun 2021

Computational Models of Motion

Feb-Jun 2021

Probabilistic Artificial Intelligence

Sep-Dec 2021

Computational Intelligence Lab

Sep-Dec 2021

Seminar In Advanced Topics in Computer Vision and Graphics

Sep-Dec 2021

ACADEMIC EDUCATION

Swiss Federal Institute of Technology in Zürich (ETHZ)

2019-2022

MSc in Computer Science

Swiss Federal Institute of Technology in Lausanne (EPFL)

2016-2019

BSc in Communication Systems

Bachelor Project: Study Of The Square Form Factorization Algorithm (SQUFOF)

SKILLS

Programming: Python, C/C++, Java, Scala, MatLab. **Libraries:** Numpy, Scipy, OpenCV, Theseus

Deep Learning Frameworks: PyTorch, Lightning

LANGUAGES

Italian (Maternal), English (Fluent), French (Elementary), German (Elementary)

REFERENCES

Dr. Gurkirt Singh

CV/ML Engineer at Xovis AG, Zürich

Dr. Vasileios Choutas

Research Scientist at Google AR/VR, Zürich

Dr. Prashant Chandran

Associate Research Scientist at Disney Research, Zürich