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 2024 - present*
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	ETH Zurich
Dr. Vasileios Choutas	ETH Zurich, Max Plank Institute Tübingen