NICOLAS MUNTWYLER

Machine Learning Student

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EXPERIENCE

Datamanagement hospital hygiene (Civil Service)

USZ (University Hospital Zurich)

May 2021 – July 2021 Zurich

- Evaluation of mycobacteria data
- Covid19 Surveillance for BAG

PROJECTS

Optical Flow Estimation

ETH - Machine Perception

Predict the human optical flow between two consecutive images.

- Architecture: PWC-Net + Iterative residual refinement + Cycle loss + Segmentation Network
- Performance: End Point Error reduction of 67%

Surface Reconstruction

ETH - Bachelor Thesis

Given a 3D input point cloud, return a reconstruction mesh.

- Architecture: VAE + attention based GNN
- Performance: On par with DeepSDF and OccNet

Authorship Prediction

ETH - Natural Language Processing

Given a judicial opinion text, predict the correct judge/author.

- Architecture: SVM + Bag of Words
- Performance: Accuracy of up to 97%

Sleep Detection on Mice

ETH - Advanced Machine Learning

From EEG Data predict when a mouse is sleeping/awake.

- Architecture: CNN + Pre/Post-processing
- Performance: Placed 4th out of >200 ETH teams

RELEVANT ETH COURSES

- Bachelor Thesis (Grade: 5.75)
- Advanced machine learning (Grade: 5.5)
- Visual Computing (Grade: 5.25)
- Natural Language Processing (Grade: 5.5)
- Introduction to machine learning (Grade: 5)
- Machine Perception (Grade: pending)

EDUCATION

M.Sc. Computer Science

ETH Zurich

Sept 2021 – Present

Major: Machine Intelligence
Minor: Computer Graphics

B.Sc. Computer Science

ETH Zurich

Sept 2017 – Sept 2021

Thesis: "ReconRLA: Point-based large-scale Surface Reconstruction from Point Clouds"

Swiss Matura

MNG Rämibühl

Aug 2012 – July 2016

Focus: Applied Mathematics and Physics

SKILLS

Programming Languages

Python JavaScript Java C/C++

Frameworks

Pytorch Tensorflow Scikit-learn

Systems

Hydra Git Linux

MY INTERESTS

- Machine Learning
- Computer Vision
- Visual recognition problems
- Generative modeling

LANGUAGES

German ●●●●●
English ●●●●●
French ●●●○○