Helpful Links & Resources

Marco Willi

Links and ressources to different topics related to Machine Learning, Deep Learning, and Images.

Theory

PyTorch

[PyTorch internals - Blog Post](#)

Deep Learning and Computer Vision

[University of Michigan - Deep Learning for Computer Vision](#)

- Sehr gute Vorlesung zum Thema

[University of California, Berkeley - Modern Computer Vision and Deep Learning](#)

- Sehr gute Vorlesung zum Thema

Neuronale Netzwerke - Basics

[Perceptron Learning Rule S. Raschka](#)

[CS229 Stanford MLP Backpropagation](#)

[Notes on Backpropagation](#)

[3Blue1Brown Gradient Descent](#)

[3Blue1Brown Backpropagation Calculus](#)

[Andrew Ng Backprop](#)

[Andrej Karpathy - Backpropagation from the ground up](#)

Model Selection

[Paper von S.Raschka: "Model Evaluation, Model Selection, and Algorithm Selection in Machine Learning"](#)

Practical

[Andrej Karpathy - A Recipe for Training Neural Networks](#)

ML Best Practices Videos

[Martin Zinkevich - Best Practices for ML Engineering](#)

[Andrew Ng - Advice For Applying Machine Learning | Deciding What To Try Next](#)

[Andrew Ng - Advice For Applying Machine Learning | Learning Curves](#)

[Andrew Ng - Advice For Applying Machine Learning | Deciding What To Do Next (Revisited)](#)

[Andrew Ng - Machine Learning System Design | Prioritizing What To Work On](#)

[Andrew Ng - Machine Learning System Design | Error Analysis](#)

[Andrew Ng - Machine Learning System Design | Data For Machine Learning](#)

Tools

Data Science Repository

[Build a Reproducible and Maintainable Data Science Project](#)

- great jupyter book to learen about how to structure a repository and more

[Lightning-Hydra-Template](#)

- template to strcuture a repository based on experiment configuration with Hydra and Pytorch-Lightning

Data Handling

[datasets](#)

- Great package to create and manage (large) image datasets

[img2dataset](#)

- Package to download large image datasets from urls

[DVC](#)

- Package for data version control

PyTorch

[Lightning](#)

- boilerplate code to easily train models and use gpu, etc.