Benedikt Dietz

Rigistrasse 27c, 8006 Zurich, CH | +49 170 70 456 09 | bdietz@student.ethz.ch | 8th July, 1993 | German

Academic

MSc Mechanical Engineering | ETH Zürich | 2017 - 2019 | Predicted Grade: 5.4

Studies: Focus on machine learning, intelligent systems & learning theory

Master Thesis: *"Deep Learning Diabetes Analysis"*

Exploratory Deep Learning analysis of full-body MRT scans | Implementation of various CNN architectures, ending up with DenseNet | Optimisation and analysis | Visualisation of gradients | Clusterings | Defined structures in t-SNE embeddings of trained CNN and Diabetes AUC-ROC of $\sim 76\%$

Prof. Dr. Schölkopf and Dr. Bauer, 'Max Planck Institute for Intelligent Systems'
Prof. Buhmann, ETH Zürich 'Institute for Machine Learning' | Predicted grade: 6.0

Semester Thesis: *"Correspondance Matching in Vegetation Point Clouds using Deep Learning"*

Implementation of Siamese CNN | Introduced selective sampling and a penalty on variance in the embedding distances which led to significantly improved losses and training stability

Prof. Siegwart, 'ASL', ETH | Dr. Beardsley, 'Disney Research' | Grade: 5.75

Additional Projects:

'Locally Linear Embedding' | 'Pairwise Clustering' | 'Meanfield Approximation' | MRT brain age regression | 'Deterministic Annealing' clustering | Various ETH course competitions

BSc Mechanical Engineering | ETH Zürich | 2012 - 2016 | Grade: 4.45

Bachelor Thesis: *"Exploring the Limits of existing TCAD for Simulation of Transport in CNT Sensors"*
Numerical simulation of quantum transport in carbon nanotubes | Prof. Dr. Luisier | Grade: 5.75

Additional Projects: Team leader at ETH 'Innovation Project' | Grade: 5.0

Previous Education

Abitur: 'Staatliches Gymnasium Pullach' | Munich, Germany | 2011 | Grade: 2.0
GCSEs: 'Leighton Park Boarding School' | Reading, England | 2008-2009

Experience

Max Planck Institute for Intelligent Systems | Visiting Researcher | 12/2018 - 06/2019

Development of 'Deep Learning' framework for the prediction, analysis and clustering of Diabetes and sub-types from full-body MRI scans | Presentation of results and report | Planned publication in 2019

Disney Research Zürich | Visiting Researcher | 02/2018 - 07/2018

Siamese CNN for correspondence matching | Implementation of sampling strategies and additional loss to improve performance | Reconstruction pipeline | Discussion/ presentation to the Disney Research team

ETH Juniors | Machine Learning Specialist | 02/2018 - 05/2018

Consulting project deployment | Support and consulting of developers | Implementation of LSTM to predict hydro power production | Review of possible novel approaches | Presentations to the team

Infineon AG | Internship | 09/2016 - 12/2016

Implementation and automation of characterisation algorithms for micro sensors | Optical- and electro-acustical measurements | Development of novel measuring adapters | Assembly of micro sensors

Goetzpartners Strategy Consulting | Internship | 06/2012 - 08/2012

Fuchs Petrolub China | Internship | 10/2011 - 04/2012

Skills

Advanced . . . . Tensorflow | Python | scikit-learn

Intermediate . . . . Cuda | Matlab | C++ | SQL | Linux

Extracurricular

- Member of ETH Analytics Club

- Fluent in German & English