

MARCEL WAGENLANDER

hello@marcel.systems

PERSONAL PROFILE

PhD candidate at Imperial College London focusing on Systems for Machine Learning. A teamwork-favouring researcher who is curious and looking to learn new skills. Experience in collaborating in research groups, designing and implementing systems with Python, Go, and DL frameworks.

EDUCATION

Computing Research, PhD

Imperial College London

since July 2021

Large-scale Data & Systems Group

- Focus on large-scale deep learning systems supervised by Peter Pietzuch
- Currently, exploring the impact of resource changes on DL training systems

Master of Science in Informatics

Technical University of Munich

April 2018 – June 2021

- Graduated with 1.7
- Thesis on Memory Management for Graph Neural Networks on GPUs. Offloading data from the GPU memory to train GNNs with huge graphs
- Implemented autonomous parking for two scenarios in a team of six. Utilised ROS, LIDAR and SLAM to plan trajectories

Study abroad

Deakin University, Melbourne

February 2017 - June 2017

- Explored capabilities of the Nao robot and execute autonomous parcel delivery
- Refined verbal and written communication skills in English

Bachelor of Science in Informatics

October 2014 – March 2018

Technical University of Munich

- Graduated with 2.2
- Thesis on Classification of goalkeeper movements. Using an inertial measurement unit to predict exercises with a 80 % accuracy
- Developed and presented a smart textile system for testing and data gathering in-field for T-Systems in a team of nine

PUBLICATIONS

KungFu: Making Training in Distributed Machine Learning Adaptive

Luo Mai, Guo Li, Marcel Wagenländer, Konstantinos Fertakis, Andrei-Octavian Brabete, Peter Pietzuch. OSDI, 2020

Spotnik: Designing Distributed Machine Learning for Transient Cloud Resources

Marcel Wagenländer, Luo Mai, Guo Li, Peter Pietzuch. HotCloud, 2020

PRE-PRINT

Tenplex: Changing Resources of Deep Learning Jobs using Parallelizable Tensor Collections

Marcel Wagenländer, Guo Li, Bo Zhao, Luo Mai, Peter Pietzuch. arXiv

RESEARCH EXPERIENCE

Research assistant

LSDS group, Imperial Collage London

October 2019 - March 2020

- Adapted the synchronisation strategy for distributed deep learning systems
- Designed an algorithm to search for the optimal cluster size
- Written and presented a workshop paper at HotCloud
- Contributed to the open-source project KungFu

WORK EXPERIENCE

Software engineer as working student

Capgemini Deutschland GmbH

March 2018 – June 2019

- Curated start-ups for the Applied Innovation Exchange
- Developed a demo assembly line with IoT, robot arm and computer vision
- Designed the backend for a workshop event app
- Demonstrated start-ups and demos to colleagues and customers

Software engineer as working student

Interactive Wear AG

October 2017 - December 2017

- Created an iOS app to communicate and control a smart textile

AREAS OF INTEREST

Distributed Systems

Dynamic Systems

Machine Learning

Artificial General Intelligence

Deep Learning

Large Language Models

SKILLS

TensorFlow

PyTorch

NumPy

MindSpore

Latex

Matplotlib

Git

Affinity Creative Software

PROGRAMMING LANGUAGES

Advanced skill in Python, Go

Intermediate skills in C++

Basic skills in Swift

LANGUAGES

Native in German

Fluent in English

Basic skills in Spanish and Chinese

LINKS

Email

Website

Github

LinkedIn

Mastodon