MARCEL WAGENLANDER

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PERSONAL PROFILE

PhD candidate at Imperial College London specializing in large-scale artificial intelligence systems. Skilled in distributed systems, Python, Go, and ML frameworks. Collaborative researcher focused on optimizing performance of AI workloads. Always eager to learn and tackle complex technical challenges.

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. Utilisied 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

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

Marcel Wagenländer, Guo Li, Bo Zhao, Luo Mai, Peter Pietzuch. SOSP, 2024

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

Recommendations for Baselines and Benchmarking Approximate Gaussian Processes

Sebastian W. Ober*, Artem Artemev*, Marcel Wagenländer*,
Rudolfs Grobins, Mark van der Wilk. arXiv

RESEARCH EXPERIENCE

Research assistant

LSDS group, Imperial College 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 Generative AI

SKILLS

PyTorch JAX NumPy 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