

Meng-Yuan Yang

Curriculum Vitae

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Info

Date of Birth	21.09.1993	Nationality	Taiwan
Civil Status	Single	Residence permit	B
LinkedIn	https://www.linkedin.com/in/mengyuan-yang/		
Github	https://github.com/kazewind22		

Education

- 09.2017 – Present **M.Sc. in Computer Science.**
ETH Zürich – Zürich, Switzerland
- Focus: **Machine Learning**, Deep Learning, Distributed Computing; GPA: 5.4/6
 - Master thesis: “Meta-SGD: A Unified Algorithm of Distributed SGD”
 - Expected Graduation Summer of 2020
- 09.2012 – 06.2016 **B.Sc. in Computer Science and Information Engineering.**
National Taiwan University – Taipei, Taiwan
- GPA: 4.21/4.3 (major), 4.11/4.3 (overall), Rank: 5th out of 104
 - Honors: two times Academic Presidential Award

Experience

- 08.2019 – 03.2020 **Master thesis**, *ETH Zürich*, Zürich, Switzerland.
Scalable Parallel Computing Lab, *Supervisor: Prof. T. Hoefer, Dr. T. Ben-Nun*
- Reviewed and summarized 19 Distributed Stochastic Gradient Descent (DSGD) algorithms, commonly used to train large-scale Deep Neural Networks (DNN).
 - Proposed a unified abstraction of DSGD algorithms that defined algorithms with computation networks among *learners* and *updaters*.
- 09.2018 – 01.2019 **Research Intern**, *Huawei*, Shenzhen, China.
Recommender System Team, Noah’s Ark Lab, *Advisor: Dr. Zhenhua Dong*
- Conducted an A/B test in the online advertising system and verified the selection bias in the conventional binary classification approach in click-through rates (CTR) prediction.
 - Proposed a framework for counterfactual CTR prediction and improved 12% AUC score by considering non-displayed events to alleviate selection bias.
 - Introduced and implemented Block Coordinate Decent algorithm that successfully tackle the failure of SGD on handling non-displayed events.
- 07.2018 – 08.2018 **Research Intern**, *WorldQuant*, Taipei, Taiwan.
- Developed and examined trading signals (alphas) using mathematical models and large-scale backtesting datasets through the WebSim research platform.

- 09.2014 – 06.2016 **Research Assistant**, *National Taiwan University*, Taipei, Taiwan.
Machine Learning and Data Mining Group, *Advisor: Prof. Chih-Jen Lin*
- Contributed to the development of LIBMF, an efficient Matrix Factorization open-source library, using **OpenMP** and **SIMD instructions** to utilize the computation power of modern multi-core machines.
 - Proposed alternating Newton method for solving a multi-block convex reformulation of **Factorization Machine** and successfully reduced training time by more than **90%**.
- 09.2015 – 01.2016 **Teaching Assistant**, *National Taiwan University*, Taipei, Taiwan.
Machine Learning Class, *Instructor: Prof. Hsuan-Tien Lin*

Publications

- 2019 **Improving Ad Click Prediction by Considering Non-displayed Events**
Third author; ACM CIKM, 2019. [\[pdf\]](#)
- 2019 **One-class Field-aware Factorization Machines for Recommender Systems with Implicit Feedbacks**. Second author; Technical report, 2019. [\[pdf\]](#)
- 2018 **An Efficient Alternating Newton Method for Learning Factorization Machines**. Third author; ACM TIST, 2018. [\[pdf\]](#)
- 2016 **LIBMF: A Library for Parallel Matrix Factorization in Shared-memory Systems**. Third author; JMLR, 2016. [\[pdf\]](#)

Selected Projects

- 07.2019 – 08.2019 **Deep500** [\[Github\]](#)
- This is high-performance computing (HPC) benchmarking library for deep neural networks. I contributed to a Video Action Recognition prototype by adding the UCF101 dataset and implementing a Long-term Recurrent Convolutional Networks (LRCN) with ResNet and LSTM.
- 04.2017 **Search Engine for PTT**
- A search engine for PTT, Taiwan's largest Reddit-like forum. Combining Jieba Chinese text segmentation, Open Chinese Convert library, and Gensim Word2Vec models, the system recommends related articles based on Word2Vec similarity and tf-idf model.

Technical Skills

Programming	C/C++, Python, Matlab, Shell Script, SQL, HTML, CSS, JavaScript
Toolkit	Git, PyTorch, TensorFlow, OpenMPI, OpenMP, OpenCV

Languages

Chinese	Mother tongue
English	Professional working proficiency

Leadership / Extracurricular

- Sep 2018 **Energy Matter: ETH Week** Collaborated with an interdisciplinary team to propose “Community Based Green Energy” project, aiming at lowering financial and organizational hurdles of green energy.