

Mu Yang | Research Assistant

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Education

Institute of Applied Mathematical Sciences, National Taiwan University Taipei, Taiwan
Master of Science 2015–2017

Department of Mathematics, National Taiwan University Taipei, Taiwan
Bachelor of Science 2011–2015

Experience

Vocational

CKIP Lab, Institute of Information Science, Academia Sinica Taipei, Taiwan
Research Assistant 2017–present

- Supervisor: Dr. Wei-Yun Ma.
- Conducting researches of natural language processing and computational linguistics.
 - Knowledge Embedding, Word Embedding
 - Named Entity Linking, Relation Extraction
 - Cluster Management and Maintenance
 - Web/Demo Design and Development

Thomas J. Watson Research Center, IBM Corporation Yorktown Heights, NY, USA
Internship 2015

- Supervisor: Dr. I-Hsin Chung.
- Conducting researches of high-performance parallel computing on hybrid CPU-GPU structures.

Miscellaneous

Institute of Applied Mathematical Sciences, National Taiwan University Taipei, Taiwan
Research Assistant 2013–2017

- Supervisor: Prof. Weichung Wang.
- Conducting researches of high-performance parallel computing on hybrid CPU-GPU structures.
 - High-Performance Parallel Computing, Hybrid CPU-GPU Platform
 - Numerical Linear Algebra, Algorithm
 - Cluster Management and Maintenance

Department of Economics, National Taiwan University Taipei, Taiwan
Research Assistant 2016

- Supervisor: Prof. Semin Kim.
- Conducting researches of ordinal versus cardinal voting rules.

National Taiwan University Taipei, Taiwan
Teaching Assistant 2015–2017

- Courses: Software Development for Computational and Data Science, High Performance Computing and Deep Learning, Introduction to Computational & Data Sciences, Introduction to Scientific Computing, Numerical Linear Algebra, Introduction to Computational Mathematics, Computer Programming, Mathematic Software, Calculus.

Publications

Headword-Oriented Entity Linking: A New Entity Linking Task with Dataset and Baseline
Mu Yang, Chi-Yen Chen, Yi-Hui Lee, Qian-Hui Zeng, Wei-Yun Ma (submitted)

HWE: Word Embedding with Heterogeneous Features
Jhih-Sheng Fan, Mu Yang, Peng-Hsuan Li, Wei-Yun Ma 2019
13th IEEE International Conference on Semantic Computing (ICSC'19)

Highly Scalable Parallelism of Integrated Randomized Singular Value Decomposition with Big Data Applications
Mu Yang, (Advisor: Weichung Wang) 2017
Master's Thesis, National Taiwan University

Particle Swarm Stepwise Algorithm (PaSS) on Multicore Hybrid CPU-GPU Clusters
Mu Yang, Ray-Bing Chen, I-Hsin Chung, Weichung Wang 2016
16th IEEE International Conference on Computer and Information Technology (CIT'16)

Selected Projects

HWE: Heterogeneous Word Embedding 2017–2018
A general and flexible framework of word embeddings to incorporate each type (e.g. word-sense, part-of-speech, topic) of contextual feature for learning feature-specific word embeddings in an explicit fashion.

CosmEL: Cosmetic Entity Linking 2017–2018
A novel entity linking project on cosmetic domain with dataset and baseline. An industrial-academic project with PIXNET Corporation.

iSVD: Integrated Singular Value Decomposition Algorithm 2015–2017
A parallel low-rank approximate singular value decomposition solver using integrated randomized algorithm. Implemented for multinode hybrid CPU-GPU systems.

PaSS: Particle Swarm Stepwise Algorithm 2013–2015
A parallel stochastic search algorithm for information criterion variable selection problems. Implemented for multinode hybrid CPU-GPU systems.

Awards

Top 2 Short Answer, Top 3 Multiple Choice, Out of 143 Teams 2018–2019
Formosa Grand Challenge (Chinese TOEFL-like listening comprehension QA)

Presentation Excellence Award 2016
7th Taiwan-Japan Joint Workshop for Young Scholars in Applied Mathematics

Top 1 Academic Excellence Award Fall 2011
Department of Mathematics, National Taiwan University

Computer Skills

Programming Language: C/C++, Java, Python, Assembly

Tools & Libraries: Git, CMake, MPI/OpenMP, PyTorch/TensorFlow

Web Tools: HTML/CSS, JavaScript, Vue

Languages

Chinese: Native Proficiency

English: Limited Working Proficiency

Personal Interests

High Performance Computing

Numerical Linear Algebra

Algorithm

Machine Learning

Cluster Management

Web Design

Music (Piano, Singing)