Mu Yang

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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*

- Software Development for Computational and Data Science
- Computational Methods and Tools for Data Science
- High Performance Computing and Deep Learning
- Introduction to Computational Mathematics
- Introduction to Scientific Computing
- Numerical Linear Algebra
- Mathematic Software
- Computer Programming (2016)
- Computer Programming (2015)
- Calculus (A)
- Calculus (B)

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)*
12th Language Resources and Evaluation Conference (LREC'20)

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

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.

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.

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.

HiS: Hierarchical Schur Solver *2015–2016*
A direct linear solver exploiting the sparse structure of multilevel nested dissection matrix to maximize parallel scalability on multinode GPU clusters.

hHiS: Hybrid Hierarchical Schur Solver *2014–2016*
A parallel linear solver for sparse symmetric positive definite matrices using direct/iterative method on each parts of k-way vertex partitioning to maximize parallel scalability on multinode 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

Libraries: MPI/OpenMP, LAPACK/MKL/Magma, CUDA, PyTorch/TensorFlow

Tools: Git, CMake, SQL, MATLAB, LaTeX

Web Skills: HTML/CSS, JavaScript, Vue