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*

- 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)*
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

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

Personal Interests

High Performance Computing   Numerical Linear Algebra

Algorithm   Machine Learning

Cluster Management   Web Design

Music (Piano, Singing)