Mu Yang 楊慕

RESEARCH ASSISTANT · DATA ENGINEER

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Summary

A full-stack developer with a research background in both computer science and applied mathematics domains. Skilled in front-end web design, deep learning, and parallel computing researches. Experienced in computer cluster formation and maintenance.

Education

National Taiwan University   *Taipei, Taiwan*
M. Sc. in Applied Mathematical Sciences   *Sep. 2015 – Jun. 2017*

- Supervisor: Prof. Weichung Wang

National Taiwan University   *Taipei, Taiwan*
B. Sc. in Mathematics   *Sep. 2011 – Jun. 2015*

Work Experience

VOCATIONAL

CKIP Lab, Institute of Information Science, Academia Sinica   *Taipei, Taiwan*
RESEARCH ASSISTANT   *Jul. 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

Institute of Applied Mathematical Sciences, National Taiwan University   *Taipei, Taiwan*
RESEARCH ASSISTANT   *Sep. 2013 – Aug. 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, Algorithms
  - Cluster Management and Maintenance

Thomas J. Watson Research Center, IBM Corporation   *Yorktown Heights, NY, U.S.A*
INTERNSHIP   *Jul. 2015 – Aug. 2015*

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

MISCELLANEOUS

Department of Economics, National Taiwan University   *Taipei, Taiwan*
RESEARCH ASSISTANT   *Mar. 2016 – Aug. 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
- Calculus

Selected Projects

CKIP CoreNLP
2018 – 2020

A Python Package of CKIP CoreNLP Toolkits, and its online demo system. 🌐 `https://ckip.iis.sinica.edu.tw/service/corenlp/`

E-HowNet Parsing and Visualization
2018 – 2020

A Parser for E-HowNet, and its visualization demo. 🌐 `https://ckip.iis.sinica.edu.tw/service/ehnvis/`

CKIP Lab Website
2018 – 2020

The CKIP lab website design, implementation, and maintenance. 🌐 `https://ckip.iis.sinica.edu.tw/`

CosmEL: Cosmetic Entity Linking
2017 – 2019

A novel entity linking project on cosmetic domain with dataset and baselines. An industrial-academic project with PIXNET Corporation.

HWE: Heterogeneous Word Embedding
2017 – 2018

A general and flexible framework of word embeddings to incorporate different 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 on multinode hybrid CPU-GPU systems.

Publications

12th Language Resources and Evaluation Conference (LREC'20)
Marsélle, France

MU YANG, CHI-YEN CHEN, YI-HUI LEE, QIAN-HUI ZENG, WEI-YUN MA, CHEN-YANG SHIH, WEI-JHIH CHEN
May. 2020

Headword-Oriented Entity Linking: A New Entity Linking Task with Dataset and Baseline

13th IEEE International Conference on Semantic Computing (ICSC'19)
Newport Beach, CA, U.S.A

JHIH-SHENG FAN, MU YANG, PENG-HSUAN LI, WEI-YUN MA
Jan. – Feb. 2019

HWE: Word Embedding with Heterogeneous Features

16th IEEE International Conference on Computer and Information Technology (CIT'16)
Yanuca Island, Fiji

MU YANG, RAY-BING CHEN, I-HSIN CHUNG, WEICHUNG WANG
Dec. 2016

Particle Swarm Stepwise Algorithm (PaSS) on Multicore Hybrid CPU-GPU Clusters

Master's Thesis, National Taiwan University
Taipei, Taiwan

MU YANG, (ADVISOR: WEICHUNG WANG)
Jul. 2017

Highly Scalable Parallelism of Integrated Randomized Singular Value Decomposition with Big Data Applications

Honors & Awards

Mar. 2019 **3rd Place,** Formosa Grand Challenge (Chinese TOEFL-like listening comprehension QA) *Taipei, Taiwan*

Feb. 2016 **Presentation Excellence,** 7th Taiwan-Japan Joint Workshop for Young Scholars in Applied Mathematics *Tainan, Taiwan*

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

Skills

Programming	Python, C/C++, Java, JavaScript, Assembly
Web Development	HTML/CSS/JS, SCSS/SASS, Node.js, Vue.js, Nuxt.js, Bootstrap/BootstrapVue, Vuetify
Tools	Unix, Git, Makefile, CMake, SQL, MATLAB, LaTeX
Other	MPI/OpenMP, LAPACK/MKL/Magma, CUDA, PyTorch/TensorFlow, Scikit-Learn
Languages	Chinese, English