

# Mu Yang 楊慕

RESEARCH ASSISTANT · DATA ENGINEER · FULL-STACK DEVELOPER

☎ (+886) 920-890-202 | ✉ emfomy@gmail.com | 🏠 muyang.pro | 📍 Taipei, Taiwan | 🌐 emfomy | 📧 emfomy | in emfomy

## Summary

A data engineer and 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

MASTER OF SCIENCE IN APPLIED MATHEMATICAL SCIENCES, SUPERVISED BY PROF. WEICHUNG WANG

Taipei, Taiwan

Sept. 2015 – June 2017

### National Taiwan University

BACHELOR OF SCIENCE IN MATHEMATICS

Taipei, Taiwan

Sept. 2011 – June 2015

## Work Experience

### CKIP Lab, Institute of Information Science, Academia Sinica

Taipei, Taiwan

RESEARCH ASSISTANT, SUPERVISED BY DR. WEI-YUN MA

July 2017 – Dec. 2020 (expected)

- Developing natural language processing toolkits with Python package and online demo system. 🌐 <https://ckip.iis.sinica.edu.tw/service/corenlp/>
- Devising a syntax parser for E-HowNet (a common-sense knowledge base) and visualization demo system. 🌐 <https://ckip.iis.sinica.edu.tw/service/ehervis/>
- Coordinated with PIXNET Corporation and proposed a novel entity linking method on cosmetic domain with dataset and baselines. Published the research paper “*Headword-Oriented Entity Linking: A New Entity Linking Task with Dataset and Baseline*” in LREC 2020.
- Proposed a general and flexible framework of word embeddings which outperformed various state-of-the-art models. Published the research paper “*HWE: Word Embedding with Heterogeneous Features*” in IEEE-ICSC 2019.
- Designed and implemented the lab website. 🌐 <https://ckip.iis.sinica.edu.tw/>
- Established the computer clusters with shared file/login system, and online monitor systems.

### Institute of Applied Mathematical Sciences, National Taiwan University

Taipei, Taiwan

RESEARCH ASSISTANT, SUPERVISED BY PROF. WEICHUNG WANG

Sept. 2013 – Aug. 2017

- Developed a parallel randomized singular value decomposition solver, and implemented it for multinode hybrid CPU-GPU systems.
- Published the master thesis “*Highly Scalable Parallelism of Integrated Randomized Singular Value Decomposition with Big Data Applications*”.
- Redesigned and maintained the computer clusters.

### Thomas J. Watson Research Center, IBM Corporation

Yorktown Heights, NY, U.S.A

INTERNSHIP, SUPERVISED BY DR. I-HSIN CHUNG

July 2015 – Aug. 2015

- Developed a parallel stochastic search algorithm for variable selection problems on hybrid CPU-GPU supercomputer systems.
- Published the research paper “*Particle Swarm Stepwise Algorithm (PaSS) on Multicore Hybrid CPU-GPU Clusters*” in IEEE-CIT 2016.

### Department of Economics, National Taiwan University

Taipei, Taiwan

RESEARCH ASSISTANT, SUPERVISED BY PROF. SEMIN KIM

Mar. 2016 – Aug. 2016

- Conducted numerical experiments and assisted in the research paper “*Ordinal Versus Cardinal Voting Rules*”.

## 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

<b>Programming</b>	Python, C/C++, Java, JavaScript, Assembly
<b>Web Development</b>	HTML/CSS/JS, SCSS/SASS, Node.js, Vue.js, Nuxt.js, Bootstrap/BootstrapVue, Vuetify
<b>Tools</b>	Unix, Git, Makefile, CMake, SQL, MATLAB, TeX
<b>Libraries</b>	MPI/OpenMP, LAPACK/MKL/Magma, CUDA, PyTorch/TensorFlow, Scikit-Learn
<b>Interests</b>	Piano, Singing
<b>Language</b>	Chinese (Native), English (Fluent, TOEFL 96/120)