Joseph Chang

Curriculum Vitae

Language Technologies Institute, Carnegie Mellon University
5000 Forbes Ave, Pittsburgh, PA 15213
650-877-2009
josephcc@cmu.edu
joseph.nlpweb.org

Education

2013–2015 (exp.) **Graduate Research Assistant**, *Computer Science*, Carnegie Mellon University.
In the MLT program. Research focused on Human-Computer Interaction, Natural Language Processing and Machine Learning. Developed a complex crowd-sourcing pipeline web application using Ruby on Rails. Won competition projects for two courses: *Algorithms for NLP* and *Language and Statistics*.

2010–2012 **M.S., Computer Science**, *National Tsing Hua University*, *GPA 4.23/4.30*.
Research focused on Natural Language Processing and Information Retrieval, including cross-lingual information extraction, grammatical error correction, machine translation, Wikipedia, Google Web1T, and Hadoop MapReduce. Published two research papers in top NLP conferences, participated in two competitive shared tasks, and one journal paper.

2006–2010 **B.S., Computer Science**, *Yuan Ze University*, *GPA 3.6/4.0*.
Joined EDA Lab and studied FPGA architectures, FPGA technology mapping, and design partitioning for 3D IC. Published two IR, NLP related conference papers.

Work Experience

April–July 2013 **Search Engineer, APAC**, *Yahoo Taiwan Inc.*
Worked as an engineer for the Yahoo knowledge graph. Including search log mining, database integration, and a web-based backstage interface.

April–June 2012 **Freelance Developer**, *OpenMoko Inc.*
Developed a comprehensive Android client for the social network https://intelligencia.io for OpenMoko, the startup company that initiated the Openmoko Project for building a open source mobile phones in 2007.

2010–2011 **Research Assistant**, *Academia Sinica (national academy)*.
Developed an Expectation-Maximization based method for cross-lingual ontology mapping, from EHowNet to the Princeton WordNet. The algorithm was implemented on the Hadoop MapReduce platform for efficiency.

May–Sept. 2010 **Software Engineer Intern**, *0xlab Inc.*
Developed 0xBench in C and Java, the open source Android benchmarking platform and server-side visualization hosted on Google App Engine. 0xBench is now being used by major companies worldwide and ships with Texas Instrument's development boards. 0xlab is a startup company founded by enthusiastic developers who actively contribute to various open source projects including the Android Open Source Project.

- project page: http://code.google.com/p/0xbench/
- android app: https://play.google.com/store/apps/details?id=org.zeroxlab.zeroxbenchmark
- server-side: http://0xbenchmark.appspot.com

Technical Skills and Experiences

Hadoop	**MapReduce programming**	*5 years*
C, C++, STL	**Electronic design automation and more**	*8 years*
Python	**nltk, scipy, twisted and more**	*6 years*
Java	**Android app development**	*3 years*
Ruby	**Ruby on Rails, web dev for Amazon Mechanical Turk**	*1 years*
Objective-C	**iPhone app development**	*1 year*
Matlab	**Audio signal processing**	*1 year*
Linux	**Desktop and server administration**	*8 years*
Web platform	**Google App Engine, Heroku, Amazon EC2**	*1 year*
Reseach tools	**Moses, BerkeleyAligner, SriLM, HMM, EM, CRF, ME, SVM**	*1-4 years*

Selected Awards and Honors

Scholarship **Travel Grants**.
- The Association for Computational Linguistics and Chinese Language Processing
- Department of Information System and Applications, National Tsing Hua University
- Department of Computer Science and Engineering, National Yuan Ze University

First Place **Undergraduate Research Paper Award**, *Yuan Ze University*.

Bronze Medal **National IC/CAD Programming Contest**, *Ministry of Education*.
Developed a 3D-IC partitioning algorithm, and implemented in 3000+ lines of C++/STL code. A total of 160 teams participated to compete on runtime and algorithm performance.

Second Place **The 11^{th} Trend Micro Programming Contest**, *Trend Micro Inc.*.
Out of 67 teams that participated.

First Place **Fun Taipei Mobile App Contest**, *Taipei City Government*.
Developed *Taipei Fever*, a Taipei City tour guide app for iOS, Android, and WindowsPhone7. (http://taipei.zfever.tw)

Third Place **National Information Security Contest**, *Industrial Technology Research Institute*.
Won third place out of 149 teams that participated.

Best Student Project **Mobile Hero UI Contest**, *Ministry of Economic Affair*.
Developed *Paper Piano*, an augmented reality virtual instrument for Android. (http://www.youtube.com/watch?v=kfnd2wnb1Ec)

Honorable Mention **Mobile App Development Contest**, *Chuang Hua Telecom*.
Developed *beFriend*, a business card management app for Android.

Teaching and Presentation Experience

8 Aug. 2011 **Presenter**, *Conference for Open Source Coders, Users and Promoters (COSCUP)*.
Presented project 0xBench in one of the largest OSS conference in Asia. (attendance: 1200)

Aug.–Dec. 2011 **Teaching Assistant**, CS Dept., National Tsing Hua University.
The 2011 graduate level Natural Language Processing Lab Course.

2007–2012 **Cluster Admin/MapReduce Lecturer**, NLP Lab, National Tsing Hua University.
In charge of Hadoop cluster administration and MapReduce programming training.

Aug.–Dec. 2008 **Teaching Assistant**, CS Dept., Yuan Ze University.
The 2008 undergraduate level Computer Architecture Course.

2008–2009 **Lecturer**, PCLab, Yuan Ze University.
Gave talks on Python and MapReduce for the Student Programming Club.

Publications

Conference Papers

Joseph Chang, Richard Tzong-Han Tsai, and Jason S. Chang. WikiSense: Supersense tagging of Wikipedia named entities based on WordNet. In *Proceedings of the 23rd Pacific Asia Conference on Language, Information and Computation (PACLIC)*, pages 72–81, Hong Kong, December 2009.

Joseph Chang, Tzu-Hsi Yen, and Richard Tzong-Han Tsai. Minimally supervised question classification and answering based on WordNet and Wikipedia. In *Proceedings of the 21st Conference on Computational Linguistics and Speech Processing (ROCLING)*, Taiwan, August 2009. The Association for Computational Linguistics and Chinese Language Processing.

Joseph Z. Chang and Jason S. Chang. Word Root Finder: a morphological segmentor based on CRF. In *Proceedings of the 24th International Conference on Computational Linguistics (COLING)*, Mumbai, India, December 2012.

Joseph Z. Chang, Jason S. Chang, and Roger Jyh-Shing Jang. Learning to find translations and transliterations on the web. In *Proceedings of the 50th Annual Meeting of the Association for Computational Linguistics (ACL2012 <20%)*, pages 130–134, Jeju Island, Korea, July 2012. Association for Computational Linguistics.

Task Papers

Joseph Chang, Shih-ting Huang, Ho-ching Yen, Ming-Jhuan Jiang, Chung-chi Huang, Jason S. Chang, and Ping-che Yang. PatentMT: Summary report of team III_CYUT_NTHU. In *Patent Machine Translation Task at NTCIR-9*, Tokyo, Japan, December 2011. National Institute of Informatics, Japan.

Jian-Cheng Wu, Joseph Chang, Yi-Chun Chen, Shih-Ting Huang, Mei-Hua Chen, and Jason S. Chang. Helping Our Own: NTHU NLPLAB system description. In *Proceedings of the Seventh Workshop on Building Educational Applications Using NLP*, pages 295–301, Montreal, Canada, June 2012. North American Chapter of the Association for Computational Linguistics (NAACL).

Journal Papers

Joseph Z. Chang, Jason S. Chang, and Roger Jyh-Shing Jang. Learning to find translations and transliterations on the web based on conditional random fields. *International Journal of Computational Linguistics and Chinese Language Processing (IJCLCLP)*, 2012.