

# Joseph Chang

## Curriculum Vitae

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## Education

- 2010–2012 **M.S., Computer Science, National Tsing Hua University.**  
Research focused on Natural Language Processing and Information Retrieval, including cross-lingual information retrieval and extraction, grammatical error correction, machine translation, Wikipedia, Google Web1T, and Hadoop MapReduce programming.
- 2006–2010 **B.S., Computer Science, Yuan Ze University, GPA 3.6.**  
Joined EDA Lab and studied FPGA architectures, FPGA technology mapping, and design partitioning for 3D IC. Published two IR, NLP related conference papers.

## Languages

Chinese **Native**  
English **Fluent**

ETS TOEFL-iBT: 115 (R:29, L:29, S:29, W:28)

## Work Experience

- standing offers **Engineer or Research Intern, Trend Micro, Synology, Microsoft Research Asia.**
- April–June **Freelance Developer, OpenMoko Inc..**  
2012 Developed a highly complex Android client application of the social network website [www.bitmarq.com](http://www.bitmarq.com) for OpenMoko, the startup company that initiated the Openmoko Project to create open source mobile phones in 2007.
- 2010–2011 **Research Assistant, Academia Sinica.**  
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. **Software Engineer Intern, 0xlab Inc..**  
2010 Developed in C and Java the open source Android benchmarking platform 0xBench 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.zerolab.zerobenchmark>  
○ server-side: <http://0xbenchmark.appspot.com>
- Aug.–Dec. **Teaching Assistant, CS Dept., National Tsing Hua University.**  
2011 Teaching Assistant for the 2011 graduate level Natural Language Processing Course.
- 2007–2012 **Cluster Administrator, NLP Lab, National Tsing Hua University.**  
In charge of Hadoop cluster administration and MapReduce programming training.

Aug.–Dec. **Teaching Assistant**, CS Dept., Yuan Ze University.  
2007 Teaching Assistant for the 2007 undergraduate level Computer Architecture Course.

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## Publications

### Conference Papers (oral)

Joseph Chang, Richard Tzong-Han Tsai, and Jason S. Chang. WikiSense: Supersense tagging of Wikipedia named entities based WordNet. In *Proceedings of the 23rd Pacific Asia Conference on Language, Information and Computation*, 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, 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 (ACL)*, pages 130–134, Jeju Island, Korea, July 2012. Association for Computational Linguistics.

### Demo Papers

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.

### 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. December 2011.

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 (in review process)

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.

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## Programming Skill

Python	<b>nltk, scipy, twisted and more</b>	6 years
Hadoop	<b>MapReduce programming</b>	5 years
Research	<b>Moses, HMM, EM, CRF, ME, SVM, MEMM</b>	1-4 years
Java	<b>Android app development</b>	3 years

Objective-C	<b>iPhone app development</b>	<i>1 year</i>
Linux	<b>Desktop and server administration</b>	<i>8 years</i>
Cloud	<b>Google App Engine, Heroku</b>	<i>1 year</i>
C, C++, STL	<b>Electronic design automation and more</b>	<i>8 years</i>
Matlab	<b>Audio signal processing</b>	<i>1 year</i>

## Selected Awards and Honors

### Scholarships and 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

Bronze Medal	<b>National IC/CAD Programming Contest</b> , <i>Ministry of Education</i> . 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	<b>The 11<sup>th</sup> Trend Micro Programming Contest</b> , <i>Trend Micro Inc.</i> . Out of 67 teams that participated.
First Place	<b>Fun Taipei Mobile App Contest</b> , <i>Taipei City Government</i> . Developed <i>Taipei Fever</i> , a Taipei City tour guide app for iOS, Android, and WindowsPhone7. ( <a href="http://taipei.zfever.tw">http://taipei.zfever.tw</a> )
Third Place	<b>National Information Security Contest</b> , <i>Industrial Technology Research Institute</i> . Out of 149 teams that participated.
Best Student	<b>Mobile Hero UI Contest</b> , <i>Ministry of Economic Affairs</i> . Project Developed <i>Paper Piano</i> , an augmented reality virtual instrument for Android. ( <a href="http://www.youtube.com/watch?v=kfnd2wnb1Ec">http://www.youtube.com/watch?v=kfnd2wnb1Ec</a> )
Honorable	<b>Mobile App Development Contest</b> , <i>Chuang Hua Telecom</i> . Mention Developed <i>beFriend</i> , a business card management app for Android.
First Place	<b>Undergraduate Research Paper Award</b> , <i>Yuan Ze University</i> .