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# Research Interests: Language Modeling and Understanding

#### **Education:**

- 2009.9~2012.6 Graduate University of Chinese Academy of Sciences (GUCAS)
  - Master of Sciences degree in Computer Application Technology(Supervisor: Prof. Helen Meng)
- 2005.9~2009.6 University of Science & Technology Beijing (<u>USTB</u>)
  - ➤ Bachelor of Sciences degree in Computer Science & Technology(Top 10 in 145 students)

#### **Related Experience:**

- 2016.5~Present <u>Nuance Communications</u> Research Scientist Language Modeling
  - Language modeling for Chinese speech recognition products (Dragon Drive etc).
  - > Research and develop language modeling algorithms.
- 2013.12~2016.4 <u>Nuance Communications</u> Senior Software Engineer in Linguistic
  - Accountable for language modeling for Chinese Swype/XT9 Input Method Editor product on both device and cloud side, by researching and developing new word detection/text classification/corpus selection algorithms, improved Character Error Rate Reduction (CERR) by ~18% accumulatively
  - ➤ Proposed re-ranking Chinese cloud prediction candidates with Recurrent Neural Network Language Model (RNNLM), improved CERR by ~4%. Researched on Chinese abbreviation generation algorithm with traditional feature engineering approach (CRF) and deep learning approach (NeuroCRF)
  - Attended **Nuance Research Conference 2015** at Montreal Canada and gave poster presentation, attended international academic conference of **ACL 2015** at Beijing, visited **Seattle** team in USA and gave invited talks
- 2012.7~2013.12 Sogou Inc. Assistant Researcher in Sogou Speech Team
  - > Performed statistical language modeling for Mandarin/Cantonese speech recognition systems using terabytes corpus
  - > Set up distributed computing platform with hadoop, and developed distributed language model training tools based on Map-Reduce framework
  - > Analyzed field data, and implemented language model adaptation to improve recognition accuracy
- 2010.8~2012.6 AIMS Lab, **Chinese Academy of Sciences** (<u>CAS</u>) Master Candidate
  - Researched the core algorithm of automatic scoring of pronunciation in oral English test based on Automatic Speech Recognition (ASR) and deployed the system in high school (Shenzhen Yucai High School)
  - > Researched on language modeling adaptation for non-native spontaneous English speech recognition
  - Authored papers in **WMSCI 2011** and **ICALIP 2012** (first author), registered **1** Computer Software Copyright, and invited to participate in the 6<sup>th</sup> Beijing-Hong Kong International Doctoral Forum
- 2009.12~2010.6 Microsoft (China) Co., Ltd. Software Development Engineer (SDE) Intern
  - Investigated the backend technology of Chinese Cloud Text Input Prediction, designed and developed a tool to evaluate the accuracy of Cloud Text Input Prediction, which helped to bridge a gap for the testing work of the team
  - Explored Microsoft PlayReady DRM, setup Immigrant and Backup of SharePoint demo site, investigated SharePoint 2010 Manageability. Participated in investigation and planning of the next generation product of Office

### Skills & Language:

- Proficient in C/C++, Perl/Python, Linux, Hadoop, Fluency with English
- Strong capabilities of independent study/research/engineering. Strong analytical/communication/organizational skills.

# **Publications:**

- Meng Chen, "Re-ranking Chinese Cloud Text Input Prediction with RNNLM", in Nuance Research Conference 2016 (NRC 2016), 2016.
- Ning Han, Meng Chen, and Nan He, "Collect and Filter Weibo for Chinese ALM Training Corpus", in Nuance Research Conference 2016 (NRC 2016), 2016.

- Meng Chen and Qi Zhang, "Chinese Cloud Text Input Prediction: From Core & Linguistic Perspective", in Nuance Research Conference 2015 (NRC 2015), 2015.
- Meng Chen, Yang Song and Lan Wang, "Adapted Language Modeling for Recognition of Retelling Story in Language Learning", in Proc. 3rd International Conference on Audio, Language and Image Processing (ICALIP 2012), 2012.
- Meng Chen, Dean Luo and Lan Wang, "Automatic Scoring in a Task of Retelling Stories for Language Learners", in Proc. 15th World Multi-Conference on Systemics, Cybernetics and Informatics (WMSCI 2011), 2011.

## **Awards and Honors:**

- Graduate: Dean Scholarship of CAS (Top 5%), Season Scholarship of CAS (Top 5%), Excellent Students Awards (Top 10%)
- Undergraduate: National Inspirational Scholarship, TAIGANG Academic Scholarship, Outstanding Students Awards