Mingbo Ma

CONTACT INFORMATION

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Google scholar

RESEARCH INTERESTS

Machine Learning based Natural Language Processing Algorithms, especially Neural Networks based models for Structured Prediction, Machine Translation, Document Summarization, Image Captioning, Sentimental Analysis, Sentence Classification and Question Answering.

EXPERIENCE

Baidu USA LLC, Sunnyvale, CA, USA **Sep 2018 – now**

Research Scientist *in Baidu Silicon Valley AI Lab (SVAIL)*

Working on various neural-based structured prediction and generative models.

Baidu USA LLC, Sunnyvale, CA, USA **April 2018 – Sep 2018**

Research Intern *in Baidu Silicon Valley AI Lab (SVAIL)*

Work on global training with beam search for Machine Translation framework.
Managers: Liang Huang and Xing Li

Apple Inc., Cupertino, CA, USA **June 2017 – Sep 2017**

Research Intern *in NLP Core Technologies*

Work on various of neural-based NLP models on IOS and MacOS systems.(details are omitted based on company's policy)
Managers: Vivek Kumar Rangarajan Sridhar

IBM T.J. Watson Research Center, Yorktown Heights, NY, USA **June 2016 – Sep 2016**

Research Intern *in Cognitive Analytics and Deep Learning Group*

Proposed a set of attention regularizations to make the attention between source and target sides more accurate for summarization.

Proposed a new neural-based summarization model.

Mentor: Ramesh M. Nallapati Managers: Bing Xiang & Bowen Zhou

Authentec Inc.(acquired by Apple Inc. in 2012), Melbourne, FL, USA **May 2010 – Jun 2011**

Algorithm Engineer

Developed imaging algorithms to enhancement for finger detection, fingerprint image and reconstruction performance, The techniques relate to image processing, metric analysis, real time signal processing and filter design.

Mentors: Michael Boshra & Qiang Liu

EDUCATION

Oregon State University, Corvallis, OR, USA **Sep. 2015 – Sep. 2018**

Ph.D in Computer Science

The Graduate Center at CUNY, New York, NY, USA **June. 2013 – Aug. 2015**

Ph.D student in Computer Science

Advisor: Liang Huang

Thesis: " Structured Neural Models for Natural Language Processing"
Committee: Alan Fern, Xiaoli Fern, Prasad Tadepalli and Kyle Niemeyer

Northeastern University, Boston, MA, USA **Sep. 2012 – May 2013**
Ph.D student in Electrical Engineering
State University of New York at Buffalo, Buffalo, NY, USA **Jan. 2012 – Aug. 2012**
Ph.D student in Computer Science
Advisor: Yun (Raymond) Fu

Florida Institute of Technology, Melbourne, FL, USA **Aug. 2008 – May 2010**
Master of Science in Electrical Engineering
Advisor: Georgios C. Anagnostopoulos
Thesis: " Kernel-based Sammon Mapping for Dimensionality Reduction & Data Visualization"

Jilin University, Changchun, Jilin, China **Aug. 2004 – July 2008**
Bachelor of Science in Telecommunication Engineering

Publications

Baigong Zheng *, Renjie Zheng *, **Mingbo Ma** * and Liang Huang "Simultaneous Translation with Flexible Policy via Restricted Imitation Learning", ACL 2019 (to appear) (* equal contribution).

Mingbo Ma *, Liang Huang *, Hao Xiong, Renjie Zheng, Kaibo Liu, Baigong Zheng, Chuanqiang Zhang, Zhongjun He, Hairong Liu, Xing Li, Hua Wu and Haifeng Wang "STACL: Simultaneous Translation with Integrated Anticipation and Controllable Latency", ACL 2019 (to appear) (patent application in progress) (* equal contribution).

Hairong Liu, **Mingbo Ma**, Liang Huang, Hao Xiong and Zhongjun He "Robust Neural Machine Translation with Joint Textual and Phonetic Embedding", ACL 2019 (to appear).

Mingbo Ma *, Renjie Zheng * and Liang Huang "Learning to Stop in Structured Prediction for Neural Machine Translation", NAACL 2019 (to appear) (* equal contribution).

Renjie Zheng, **Mingbo Ma** and Liang Huang "Multi-Reference Training with Pseudo-References for Neural Translation and Text Generation", EMNLP 2018.

Yilin Yang, Liang Huang and **Mingbo Ma** "Breaking the Beam Search Curse: A Study of (Re-)Scoring Methods and Stopping Criteria for Neural Machine Translation", EMNLP 2018.

Renjie Zheng, Yilin Yang, **Mingbo Ma** and Liang Huang "Ensemble Sequence Level Training for Multimodal MT: OSU-Baidu WMT18 Multimodal Machine Translation System Report", WMT 2018.

Mingbo Ma, Dapeng li, Liang Huang and Kai Zhao "OSU Multimodal Machine Translation System Report", WMT 2017 competition on multimodal translation. *We achieved the **best TER score** among 15 systems on the English+Image → German on COCO task (the hardest task in that competition, since it's into German rather than French, and tested on out-of-domain images).*

Liang Huang, Kai Zhao and **Mingbo Ma** "When to Finish? Optimal Beam Search for Neural Text Generation", EMNLP 2017.

Mingbo Ma, Liang Huang, Bing Xiang and Bowen Zhou "Group Sparse CNNs for Question Classification with Answer Sets", ACL 2017.

Mingbo Ma, Kai Zhao, Liang Huang, Bing Xiang and Bowen Zhou "Joint Sequential Labeling and Classification by Sparse Attention Neural Networks", Interspeech, 2017.

Ramesh Nallapati, Bowen Zhou and **Mingbo Ma**, "Classify or Select: Neural Architectures for Extractive Document Summarization", arXiv, 2016.

Kai Zhao, Liang Huang and **Mingbo Ma**, "Textual Entailment with Structured Attentions and Composition", COLING, 2016.

Mingbo Ma, Liang Huang, Bing Xiang and Bowen Zhou, "Dependency-based Convolutional Neural Networks for Sentence Embedding", ACL, 2015.

Ming Shao, **Mingbo Ma**, and Yun Fu, "Low-Rank and Sparse Modeling for Visual Analysis", *Sparse Manifold Subspace Learning*, Springer, 2014.

Mingbo Ma, Ming Shao, Xu Zhao and Yun Fu, "Prototype Based Feature Learning for Face Image Set Classification", *International Conference on Automatic Face and Gesture Recognition*, 2013.

Mingbo Ma, Ryan Gonet, RuiZhi Yu and Georgios C. Anagnostopoulos, "Metric Representations of Data via the Kernel-based Sammon Mapping", *IEEE International Joint Conference on Neural Networks (IJCNN)*, 2010.

Qian Ma and **Mingbo Ma**, "Broadband Amplifier Gain Slope Equalization Filter", In *Proceedings of the 2008 Progress In Electromagnetics Research Symposium (PIERS)*, 2008.

Teaching Experience

Deep Learning, Oregon State University, Winter 2017
Algorithms, Oregon State University, Fall 2016
Deep Learning, Oregon State University, Winter 2016
Theory of Computation, Oregon State University, Fall 2015
Software Engineering, Queens College, CUNY, Spring 2015
Introduction to Computers and Computation, Queens College, CUNY, Fall 2014

Awards and Honors

Baidu Technology Innovation Award, 2018
Graduate Center Fellowship, CUNY, 2013-2015

Services

Program Committee and Paper Reviewer:
AAAI (2018, 2019), ACL (2018, 2019), AISTATS (2019), COLING (2016, 2018), EMNLP (2018), ICLR (2019), ICML (2019), IJCAI (2018), NAACL (2018, 2019), Neurocomputing (2013), TALLIP (2018)