

# Mingbo Ma

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CONTACT INFORMATION	4130 Kelley Engineering Center Corvallis, OR, 97330	Email:: cosmmb@gmail.com Web: mingboma.com
RESEARCH INTERESTS	Machine Learning based Natural Language Processing Algorithm: Sentimental Analysis; Question Answering. Also interested in Sparse Coding, Low-rank Analysis, Manifold Learning based face recognition and image classification problems.	
EDUCATION	<b>Oregon State University</b> , Corvallis, OR, USA	<b>Sep. 2015 – present</b>
	<i>Ph.D student in Computer Science</i>	
	<b>The Graduate Center at CUNY</b> , New York, NY, USA	<b>June. 2013 – Aug. 2015</b>
	<i>Ph.D student in Computer Science</i>	
	<b>Advisor:</b> Liang Huang	
	 <b>Northeastern University</b> , Boston, MA, USA	 <b>Sep. 2012 – May 2013</b>
	<i>Ph.D student in Electrical Engineering</i>	
	<b>State University of New York at Buffalo</b> , Buffalo, NY, USA	<b>Jan. 2012 – Aug. 2012</b>
	<i>Ph.D student in Computer Science</i>	
	<b>Advisor:</b> Yun (Raymond) Fu	
	 <b>Florida Institute of Technology</b> , Melbourne, FL, USA	 <b>Aug. 2008 – May 2010</b>
	<i>Master of Science in Electrical Engineering</i>	
	<b>Advisor:</b> Georgios C. Anagnostopoulos	
	<b>Thesis:</b> “ Kernel-based Sammon Mapping for Dimensionality Reduction & Data Visualization”	
	 <b>Jilin University</b> , Changchun, Jilin, China	 <b>Aug. 2004 – July 2008</b>
	<i>Bachelor of Science in Telecommunication Engineering</i>	
RESEARCH EXPERIENCE	<b>Oregon State University / The Graduate Center at CUNY</b>	<b>June. 2013 – present</b>
	<i>Research Assistant</i>	<b>Supervisor:</b> Liang Huang
	<b>Topic:</b> <i>Deep Learning algorithm for Sentiment Analysis and Question Answering</i>	
	<ul style="list-style-type: none"><li>• Dependency tree-based Convolutional Neural Networks for sentiment and sentence classification.</li><li>• Proposed Convolutional based model for Question Answering.</li><li>• Models used for NLP analysis includes Recursive, Recurrent, Convolutional Neural Networks and Long Short Term Memory.</li></ul>	

**SUNY Buffalo / Northeastern University**

**Jan. 2012 – June 2013**

*Research Assistant*

**Supervisor:** Yun (Raymond) Fu

**Topic:** *Locality Constraint Subspace Learning*

- Proposed a model for sparse graph embedding with locality sparse coding constraint.
- Formulate a model to choose the neighborhood for each locality automatically.
- Build the sparse graph embedding for face within each locality.

**Topic:** *Low-Rank Outlier Detection for Manifold Learning*

- Proposed a low-rank description for manifold learning.
- Proved each locally area of manifold can be approximated by a low-rank matrix in theory.

**Topic:** *Prototype Based Feature Learning*

- Proposed a prototype formation on image set for discriminative feature representation.
- Use prototype image sets as common reference to represent any image set.
- Proposed to use normal face to capture the discriminative information.

**Topic:** *Relative Max-Margin Feature Learning*

- Proposed a model to learning the max-margin feature relatively through reference basis.
- Adopted the traditional image classification pipeline to our model.

**Florida Institute of Technology**

**Aug. 2008 – May 2010**

*Research Assistant*

**Supervisor:** Georgios C. Anagnostopoulos

**Topic:** *Kernel-based Sammon Mapping for Metric Representations*

- Proposed a generalization of Sammon's mapping.
- Formulate projections as linear combinations of appropriate kernel functions.
- This approach subsumes the classical Sammon mapping, Radial Basis Function, Multi-layer Perceptron based approach as special cases.

**Research Experiences for Undergraduates (REU) Program**

**May 2009 – Aug. 2009**

*Graduate Mentor and Team Lead*

**Supervisor:** Georgios C. Anagnostopoulos

- Team lead, give a guidance of research and offer a theorem support.
- Finished a technique report.
- A demo relates to Multidimensional Scaling technique was created by GUI in matlab.

INDUSTRIAL  
EXPERIENCE

**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.

**Supervisor:** Michael Boshra & Qiang Liu

PUBLICATIONS

**Mingbo Ma**, Liang Huang, Bing Xiang and Bowen Zhou, "Dependency-based Convolutional Neural Networks for Sentence Embedding", *ACL*, 2014.

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            Theory of Computation, Oregon State University, 2015  
EXPERIENCE        Software Engineering, Queens College, CUNY, 2015  
                         Introduction to Computers and Computation, Queens College, CUNY, 2014

REFEREES	<b>Dr. Liang Huang</b>	<b>Dr. Georgios C. Anagnostopoulos</b>
	Assistant Professor	Associate Professor
	Oregon State University	Florida Institute of Technology
	Corvallis, OR, USA	Melbourne, FL, USA
	<b>Dr. Michael Boshra</b>	<b>Dr. Yun (Raymond) Fu</b>
	Senior Algorithm Scientist	Associate Professor
	Apple Inc.	Northeastern University
	Melbourne, FL, USA	Boston, MA, USA