Mingyuan (William) Zhang

3401 Walnut St. 454C, Philadelphia, PA, 19104
Phone: 734-747-0713 E-Mail: myz@seas.upenn.edu Web: zmx.me

RESEARCH INTEREST

Machine learning, statistical learning theory, and applications of machine learning.

EDUCATION

University of Pennsylvania, Philadelphia, Pennsylvania   *Sept. 2018 — Present*
Doctor of Philosophy in Computer and Information Science.
Advisor: Prof. Shivani Agarwal

University of Michigan, Ann Arbor, Michigan   *Sept. 2013 — Apr. 2018*
Bachelor of Science in Honors Mathematics, Honors Statistics, Computer Science and Data Science.
Overall GPA: 3.920/4.000

RESEARCH AND PROJECT EXPERIENCE

Word Embedding Project   *May 2018 — Aug. 2018*
EECS Department, University of Michigan College of Engineering
Advisor: Prof. Rada Mihalcea
Overview: Implemented the algorithm that creates word embedding from raw text by first converting text into graph representation and then generating embedding from the graph. Tested the algorithm on real datasets (including New York Times corpus and Wikipedia corpus) and compared with Word2Vec.

Learning to Rank with Top-k Feedback   *Sept. 2017 — Aug. 2018*
Department of Statistics, University of Michigan College of LSA
Advisor: Prof. Ambuj Tewari
Overview: Proved when local observability holds and fails for Pairwise Loss, Discounted Cumulative Gain and Precision@n Gain, and thus established their minimax regret rates. Proposed efficient algorithm to achieve the minimax regret rate for Precision@n Gain.

Independent Study in High-Dimensional Statistics   *Sept. 2017 — Dec. 2017*
Department of Statistics, University of Michigan College of LSA
Advisor: Prof. Gongjun Xu
Overview: Learned and compared different variable selection and statistical inference methods popularly used in high-dimensional statistics by reading selected papers, running simulations in R and attending weekly discussion meetings.

Implementation and Testing of Subspace Clustering Algorithms   *May 2017 — Jun. 2017*
Research Assistant, EECS Department, University of Michigan College of Engineering
Advisor: Prof. Laura Balzano and Prof. Jason Corso
Overview: Worked on DARPA D3M project. Implemented K-Subspaces and Ensemble K-Subspaces packages in Python and tested the implementations on Extended Yale Face Database B and Hopkins 155 Dataset.

Ordinal Embedding with a Latent Factor Model *May 2016 — Aug. 2016*

Research Assistant, EECS Department, University of Michigan College of Engineering

Advisor: Prof. Laura Balzano

Overview: Improved convergence of Aura (a non-metric multidimensional scaling algorithm proposed by Prof. Laura Balzano). Read relevant papers, wrote Matlab codes to run large-scale simulations on Flux (a high-performance computing cluster) and made figures to display simulation results. Submitted a paper (Ordinal Embedding with a Latent Factor Model) for the algorithm and the results to ICASSP 2017.

Comparison of Subspace Estimation Algorithms *May 2015 — Aug. 2015*

Research Assistant, EECS Department, University of Michigan College of Engineering

Advisor: Prof. Laura Balzano

Overview: Studied GROUSE (a subspace estimation and tracking algorithm) and compared it with ISVD and PIMC in terms of convergence rate and computational complexity by running the algorithms on both synthetic and real data in Matlab.

TEACHING EXPERIENCE

Grader for Math Courses *May 2015 — Apr. 2018*

Department of Mathematics, University of Michigan College of LSA

Overview: Grade weekly assignments for six different levels of Linear Algebra and Probability courses.

Tutor for Linear Algebra Course *May 2015 — Jun. 2015*

Department of Mathematics, University of Michigan College of LSA

Overview: Assisted students with Linear Algebra and rigorous proofs.

EXTRACURRICULAR EXPERIENCE

Java Development Training *Jul. 2014 — Aug. 2014*

Tsinghua University, Beijing, China

Overview: Studied Java development and finished the training with certificate.

HONORS

Outstanding Achievement in Mathematics Awards	*2017, 2018*
James B. Angell Scholar	*2015, 2017, 2018*
William J. Branstrom Freshman Prize	*2014*
University Honors	*2013, 2014, 2015, 2016, 2017, 2018*

SKILLS

Programming Languages: C/C++, Python, Matlab, R, Java

Machine Learning Libraries: scikit-learn, TensorFlow, CVX, MatConvNet

Database Languages: SQL, MongoDB

Document Preparations: LaTeX, Microsoft Office, Apple iWork