Wei ZHANG   **Curriculum Vitae**

CONTACT
INFORMATION

University of Wisconsin-Madison
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EDUCATION

Ph.D. of Computer Science, University of Wisconsin-Madison,   Aug. 2014 – Present
- Research areas: Intersection of Deep Neural Networks and Stochastic Point Process, with Application on Electronic Health Records.
- Minor: Statistics, GPA: 4.0/4.0
- Adviser: Professor David Page

M.S. of Computer Science, University of Wisconsin-Madison,   Aug. 2014 – Dec. 2016
- GPA: 3.96/4.0

B.S. of Computer Science, Shanghai Jiao Tong University, China   Sep. 2010 – Jul. 2014
- Major GPA: 91.5/100   Overall GPA: 90.1/100   Rank: 3/130

RESEARCH
INTERESTS

Deep Learning
- Theory and Design of Deep Networks, Regularizing Neural Networks
- Interpretability/Explanability of Nonlinear Models

Statistical Machine Learning
- Stochastic Point Processes, Time-series, Nonparametrics

Machine Learning on Healthcare
- Predictive Diagnosis, Scalable Processing of Clinical Data, Clustering and Phenotype Discovery, Patient Risk Stratification, Learning from Sparse/Missing/Imbalanced Data

ACADEMIC
APPOINTMENTS

University of Wisconsin-Madison, Madison, WI

Research Assistant   Aug. 2017 – Present

- Advisor: Professor David Page
- Develop novel deep neural network architectures for modeling event sequences, with applications in electronic health records (EHR), such as Adverse Drug Reactions, Computational Drug Repositioning, etc.

Research Assistant   Jan. 2015 – Aug. 2017

- Supervisors: Professor Xiaojin-Zhu and Professor Vikas Singh
- Developed statistical models for analyzing the longitudinal progression trajectory of Alzheimer's disease.
- Enhanced experience with exploring/analyzing clinical data.

Shanghai Jiao Tong University, Shanghai, China

Undergraduate Research Assistant   Sep. 2012 – June. 2014

- Advisors: Professor Wu-Jun Li and Professor Zhihua Zhang
- Proposed a novel supervised hashing method. Designed an effective stochastic learning strategy which reduces the training time complexity by two orders.
- Co-developed a MATLAB hashing experimental platform that includes the most of prevalent hashing methods.

PUBLICATIONS

[1] Zhaobin Kuang*, **Wei Zhang***, Peggy Peissig, David Page. Neural Self-Controlled Case Series. *Preprint.* (Co-first authors, listed by alphabetical order)

[2] **Wei Zhang**, Fan Bu, Derek Owens-Oas, Xiaojin Zhu, Katherine Heller. Learning Root Source with Marked Multivariate Hawkes Processes. *Preprint.*

[3] **Wei Zhang**, Rebecca L. Koscik, Lindsay R. Clark, Vikas Singh, Xiaojin Zhu, Sterling C. Johnson. A Hidden Markov Model's Agreement with Clinical Diagnoses and its Indication of Additional Preclinical Cognitive Deficits in the Wisconsin Registry for Alzheimer's Prevention. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*, 13.7 (2017): P687-P688. doi:10.1016/j.jalz.2017.06.857

[4] Peichao Zhang, **Wei Zhang**, Wu-jun Li, Minyi Guo. Supervised Hashing with Latent Factor Models. *In Proceedings of the 37th international ACM SIGIR conference on Research & development in information retrieval*, (pp. 173-182). ACM., 2014. doi:10.1145/2600428.2609600

TEACHING EXPERIENCE	**University of Wisconsin-Madison**, Madison, WI

Teaching Assistant   Aug. 2017 – Dec. 2017

- Assisted CS/BMI576, *Introduction to Bioinformatics*
- Graded daily assignments on programming and drafting.

Teaching Assistant   Aug. 2014 – Dec. 2014

- Assisted CS540, *Introduction to Artificial Intelligence*
- Graded daily assignments on programming and drafting, and gave two guest lectures.

WORK EXPERIENCE

Amazon Inc., Seattle, WA

Software Development Engineer Intern   Jun. 2015 – Aug. 2015

- Designed and developed a dashboard page to compare performance of ads strategy against random baseline.
- Implemented a log processor that gathers and processes log files from heterogeneous sources

PROFESSIONAL SERVICE

Referee Service
- Secondary reviewer: The 2017 International Conference on Computer Vision (ICCV 2017)
- Secondary reviewer: The 2015 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2015)

Conference Service
- PC member: NIPS 2017 Workshop on Machine Learning For Health, Los Angeles, CA, 2017.
- Volunteer: The 33rd International Conference on Machine Learning (ICML 2017), New York City, NY, 2016.

PRESENTATIONS & TALKS

Posters
- Amazon's Fifth Annual Graduate Research Symposium, Seattle, WA, 2017
- The Third Annual Retreat of Center of Predictive Computational Phenotyping (CPCP), Madison, WI, 2017

SKILLS

Programing Language:
- Python, C/C++, Java, Matlab, R, Julia, SQL, Shell, Scala, JavaScript, HTML

Machine Learning Tools:
- scikit-learn, TensorFlow, PyTorch, Theano, Keras

Big Data System:
- Hadoop, MapReduce, Spark, GraphX, Hive

Data Visualization:
- matplotlib, seaborn, plotly, D3.js, Gephi

AWARDS

Shanghai Jiao Tong University, China
- National Scholarship (2 Times, Top 2%), 2012–2013
- Academic Excellence Scholarship Class-A (Top 1%), 2013
- Honorable Mention in Mathematical Contest in Modeling, 2013
- 1st Place in Campus Innovation and Entrepreneurship Contest, 2012

Pre-college, China
- 1st Prize in National Olympiad in Informatics in Provinces, China, 2009

SERVICE

Organization committee for perspective student welcome week, 2017
- Panelist

REFERENCES
AVAILABLE TO
CONTACT

Dr. C. David Page Jr (e-mail: page@biostat.wisc.edu; phone: +1-608-316-468)
- Professor, Department of Biostatistics and Medical Informatics, and Department of Computer Sciences ,
- ◇ School of Medicine and Public Health, Madison, WI, 53715
- ⋆ *Dr. Page is my current Ph.D. advisor.*

Dr. Xiaojin (Jerry) Zhu (e-mail: jerryzhu@cs.wisc.edu; phone: +1-608-890-0129)
- Professor, Department of Computer Sciences ,
- ◇ Department of Computer Sciences, Madison, WI, 53706

Dr. Vikas Singh (e-mail: vsingh@biostat.wisc.edu; phone: +1-608-262-8875)
- Associate Professor, Department of Biostatistics and Medical Informatics, and Department of Computer Sciences ,
- ◇ Department of Computer Sciences, Madison, WI, 53706