

CONTACT INFORMATION	Medical Sciences Center, Room 4715 1300 University Ave Madison, WI, USA, 53706	Phone: +1-608-334-4387 E-mail: zhangwei@cs.wisc.edu Homepage: pages.cs.wisc.edu/~zhangwei
EDUCATION	Ph.D. of Computer Science, University of Wisconsin-Madison , <ul style="list-style-type: none"> Research areas: intersection of deep learning 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 , <ul style="list-style-type: none"> GPA: 3.96/4.0 B.S. of Computer Science, Shanghai Jiao Tong University, China <ul style="list-style-type: none"> Major GPA: 91.5/100 Overall GPA: 90.1/100 Rank: 3/130 	Aug. 2014–Present Aug. 2014–Dec. 2016 Sep. 2010–Jul. 2014
RESEARCH INTERESTS	Machine Learning for Healthcare <ul style="list-style-type: none"> Electronic health record modeling, predictive diagnosis, causal inference, scalable processing of clinical data, clustering and phenotype discovery, patient risk stratification, learning from sparse/missing/imbalanced data Deep Learning <ul style="list-style-type: none"> Theory, design, and regularization of deep neural networks Interpretability/explanability of nonlinear models Statistical Machine Learning <ul style="list-style-type: none"> Stochastic point processes, time-series, survival analysis, nonparametrics 	
ACADEMIC APPOINTMENTS	University of Wisconsin-Madison , Madison, WI <i>Research Assistant</i> <ul style="list-style-type: none"> 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. <i>Research Assistant</i> <ul style="list-style-type: none"> 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 <i>Undergraduate Research Assistant</i> <ul style="list-style-type: none"> Advisors: Professor Wu-Jun Li and Professor Zhihua Zhang Proposed a novel supervised hashing method, and designed an effective stochastic learning algorithm, reducing the training time complexity by two orders. Co-developed a MATLAB hashing experimental platform that includes the most of prevalent hashing methods. 	Aug. 2017–Present Jan. 2015–Aug. 2017 Sep. 2012–June 2014

- PUBLICATIONS
- [1] **Wei Zhang**, Zhaobin Kuang, Peggy Peissig, David Page. Adverse Drug Reaction Discovery from Electronic Health Records with Deep Neural Networks. *Submitted to AMIA-20*, 2019
 - [2] **Wei Zhang**, Hao Wei, Bunyamin Sisman, Xin Luna Dong, Christos Faloutsos, David Page. AutoBlock: A Hands-off Blocking Framework for Entity Matching. To appear in *Proceedings of the Thirteenth ACM International Conference on Web Search and Data Mining (WSDM)*, 2020
 - [3] **Wei Zhang**, Fan Bu, Derek Owens-Oas, Xiaojin Zhu, Katherine Heller. Learning Root Source with Marked Multivariate Hawkes Processes. *ArXiv*, 1809.03648, 2018
 - [4] **Wei Zhang**, Rebecca L. Kosciak, 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
 - [5] 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 and Development in Information Retrieval*, (pp. 173-182). ACM., 2014. doi:10.1145/2600428.2609600

WORK
EXPERIENCE

Facebook Inc., Menlo Park, CA

- Software Engineer Intern* Ads Personalization team May 2019–Aug. 2018
- Developed and implemented an algorithm to learn similarity-preserving embeddings for 2.3M intent factors from 6B user behavior events.
 - Implemented new embedding-based features that achieve 13.6x user-ad matching rate.

Amazon Inc., Seattle, WA

- Applied Scientist Intern* Product Graph team June 2018–Aug. 2018
- Designed and implemented a deep-learning-based blocking algorithm for entity matching on datasets of millions of records.

Amazon Inc., Seattle, WA

- Software Development Engineer Intern* June 2015–Aug. 2015
- Developed a dashboard page to compare the performance of different advertisement strategies.
 - Prototyped a log processor that processes log files from multiple sources including data warehouse, S3, local servers, etc.

TEACHING
EXPERIENCE

University of Wisconsin-Madison, Madison, WI

- Teaching Assistant* Aug. 2017–Dec. 2017
- For course CS/BMI 576, *Introduction to Bioinformatics*
 - Designed and graded course assignments (for both writing and programming questions); offered weekly office hours.
- Teaching Assistant* Aug. 2014–Dec. 2014
- For course CS 540, *Introduction to Artificial Intelligence*
 - Designed and graded course assignments (for both writing and programming questions); offered weekly office hours; gave two guest lectures.

SKILLS	<p>Programing Language:</p> <ul style="list-style-type: none"> • Python, C/C++, Java, R, MATLAB, Scala, Julia, SQL, Shell, JavaScript, HTML <p>Machine Learning Tools:</p> <ul style="list-style-type: none"> • TensorFlow, PyTorch, scikit-learn, Keras, Theano <p>Big Data System and Cloud Service:</p> <ul style="list-style-type: none"> • Spark, Presto, Hadoop, MapReduce, Hive, AWS EC2/EMR/S3 <p>Data Visualization:</p> <ul style="list-style-type: none"> • matplotlib, seaborn, plotly, dash, D3.js, TensorBoard, igraph
PROFESSIONAL SERVICE	<p>Conference Service</p> <ul style="list-style-type: none"> • PC member: AAAI (2020), UAI (2019), ACML (2019), MLH4 (NeurIPS workshop, 2017 & 2018). • Reviewer: NeurIPS (2019), ICML (2019), KDD (2019), AISTATS (2019 & 2020). • Secondary Reviewer: IJCAI (2018), UAI (2018), ICCV (2017), ASONAM (2015). • Volunteer: ICML (2016).
AWARDS	<p>Shanghai Jiao Tong University, China</p> <ul style="list-style-type: none"> • 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 <p>Pre-college, China</p> <ul style="list-style-type: none"> • 1st Prize in National Olympiad in Informatics in Provinces, China, 2009
PRESENTATIONS & TALKS	<p>Posters</p> <ul style="list-style-type: none"> • Amazon's Fifth Annual Graduate Research Symposium, Seattle, WA, 2017 • The Third Annual Retreat of Center of Predictive Computational Phenotyping (CPCP), Madison, WI, 2017
SERVICE	<p>Panelist</p> <ul style="list-style-type: none"> • Institute for Foundations of Data Science Student Workshop, 2018 • Organization committee for perspective student welcome week, 2017
REFERENCE CONTACT	<p>Dr. C. David Page Jr (e-mail: david.page@duke.edu; phone: +1-919-668-8828)</p> <ul style="list-style-type: none"> • Professor, Chair of Biostatistics and Bioinformatics, Biostatistics & Bioinformatics, Basic Science Departments ◇ Duke University, Durham, NC 27710 ★ <i>Dr. Page is my Ph.D. advisor and moved to Duke University in my last Ph.D. year.</i> <p>Dr. Xiaojin (Jerry) Zhu (e-mail: jerryzhu@cs.wisc.edu; phone: +1-608-890-0129)</p> <ul style="list-style-type: none"> • Professor, Department of Computer Sciences , ◇ University of Wisconsin-Madison, Madison, WI, 53706 <p>Dr. Vikas Singh (e-mail: vsingh@biostat.wisc.edu; phone: +1-608-262-8875)</p> <ul style="list-style-type: none"> • Associate Professor, Department of Biostatistics and Medical Informatics, and Department of Computer Sciences , ◇ University of Wisconsin-Madison, Madison, WI, 53706