

CONTACT INFORMATION	Medical Sciences Center, Room 4715 1300 University Ave Madison, WI, USA, 53706	<i>Phone:</i> +1-608-334-4387 <i>E-mail:</i> zhangwei@cs.wisc.edu <i>Homepage:</i> pages.cs.wisc.edu/~zhangwei
EDUCATION	Ph.D. of Computer Science, University of Wisconsin-Madison, <ul style="list-style-type: none"> <li>• Research areas: intersection of deep learning and stochastic point process, with application on electronic health records.</li> <li>• Minor: Statistics, GPA: 4.0/4.0</li> <li>• Adviser: Professor David Page</li> </ul> M.S. of Computer Science, University of Wisconsin-Madison, <ul style="list-style-type: none"> <li>• GPA: 3.96/4.0</li> </ul> B.S. of Computer Science, Shanghai Jiao Tong University, China <ul style="list-style-type: none"> <li>• Major GPA: 91.5/100 Overall GPA: 90.1/100 Rank: 3/130</li> </ul>	Aug. 2014–Present  Aug. 2014–Dec. 2016  Sep. 2010–Jul. 2014
RESEARCH INTERESTS	<b>Machine Learning for Healthcare</b> <ul style="list-style-type: none"> <li>• 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</li> </ul> <b>Deep Learning</b> <ul style="list-style-type: none"> <li>• Theory, design, and regularization of deep neural networks</li> <li>• Interpretability/explanability of nonlinear models</li> </ul> <b>Statistical Machine Learning</b> <ul style="list-style-type: none"> <li>• Stochastic point processes, time-series, survival analysis, nonparametrics</li> </ul>	
ACADEMIC APPOINTMENTS	<b>University of Wisconsin-Madison, Madison, WI</b>  <i>Research Assistant</i> Aug. 2017–Present <ul style="list-style-type: none"> <li>• Advisor: Professor David Page</li> <li>• 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.</li> </ul> <i>Research Assistant</i> Jan. 2015–Aug. 2017 <ul style="list-style-type: none"> <li>• Supervisors: Professor Xiaojin Zhu and Professor Vikas Singh</li> <li>• Developed statistical models for analyzing the longitudinal progression trajectory of Alzheimer’s disease.</li> <li>• Enhanced experience with exploring/analyzing clinical data.</li> </ul> <b>Shanghai Jiao Tong University, Shanghai, China</b>  <i>Undergraduate Research Assistant</i> Sep. 2012–June 2014 <ul style="list-style-type: none"> <li>• Advisors: Professor Wu-Jun Li and Professor Zhihua Zhang</li> <li>• Proposed a novel supervised hashing method, and designed an effective stochastic learning algorithm, reducing the training time complexity by two orders.</li> <li>• Co-developed a MATLAB hashing experimental platform that includes the most of prevalent hashing methods.</li> </ul>	

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>Programming Language:</p> <ul style="list-style-type: none"> <li>• Python, C/C++, Java, R, MATLAB, Scala, Julia, SQL, Shell, JavaScript, HTML</li> </ul> <p>Machine Learning Tools:</p> <ul style="list-style-type: none"> <li>• TensorFlow, PyTorch, scikit-learn, Keras, Theano</li> </ul> <p>Big Data System and Cloud Service:</p> <ul style="list-style-type: none"> <li>• Spark, Presto, Hadoop, MapReduce, Hive, AWS EC2/EMR/S3</li> </ul> <p>Data Visualization:</p> <ul style="list-style-type: none"> <li>• matplotlib, seaborn, plotly, dash, D3.js, TensorBoard, igraph</li> </ul>
PROFESSIONAL SERVICE	<p><b>Conference Service</b></p> <ul style="list-style-type: none"> <li>• PC member: AAAI (2020), UAI (2019), ACML (2019), MLH4 (NeurIPS workshop, 2017 &amp; 2018).</li> <li>• Reviewer: NeurIPS (2019), ICML (2019), KDD (2019), AISTATS (2019 &amp; 2020).</li> <li>• Secondary Reviewer: IJCAI (2018), UAI (2018), ICCV (2017), ASONAM (2015).</li> <li>• Volunteer: ICML (2016).</li> </ul>
AWARDS	<p><b>Shanghai Jiao Tong University, China</b></p> <ul style="list-style-type: none"> <li>• National Scholarship (2 Times, Top 2%), 2012–2013</li> <li>• Academic Excellence Scholarship Class-A (Top 1%), 2013</li> <li>• Honorable Mention in Mathematical Contest in Modeling, 2013</li> <li>• 1st Place in Campus Innovation and Entrepreneurship Contest, 2012</li> </ul> <p><b>Pre-college, China</b></p> <ul style="list-style-type: none"> <li>• 1st Prize in National Olympiad in Informatics in Provinces, China, 2009</li> </ul>
PRESENTATIONS & TALKS	<p><b>Posters</b></p> <ul style="list-style-type: none"> <li>• Amazon’s Fifth Annual Graduate Research Symposium, Seattle, WA, 2017</li> <li>• The Third Annual Retreat of Center of Predictive Computational Phenotyping (CPCP), Madison, WI, 2017</li> </ul>
SERVICE	<p><b>Panelist</b></p> <ul style="list-style-type: none"> <li>• Institute for Foundations of Data Science Student Workshop, 2018</li> <li>• Organization committee for perspective student welcome week, 2017</li> </ul>
REFERENCE CONTACT	<p><b>Dr. C. David Page Jr</b> (e-mail: david.page@duke.edu; phone: +1-919-668-8828)</p> <ul style="list-style-type: none"> <li>• Professor, Chair of Biostatistics and Bioinformatics, Biostatistics &amp; Bioinformatics, Basic Science Departments</li> <li>◇ Duke University, Durham, NC 27710</li> <li>★ <i>Dr. Page is my Ph.D. advisor and moved to Duke University in my last Ph.D. year.</i></li> </ul> <p><b>Dr. Xiaojin (Jerry) Zhu</b> (e-mail: jerryzhu@cs.wisc.edu; phone: +1-608-890-0129)</p> <ul style="list-style-type: none"> <li>• Professor, Department of Computer Sciences ,</li> <li>◇ University of Wisconsin-Madison, Madison, WI, 53706</li> </ul> <p><b>Dr. Vikas Singh</b> (e-mail: vsingh@biostat.wisc.edu; phone: +1-608-262-8875)</p> <ul style="list-style-type: none"> <li>• Associate Professor, Department of Biostatistics and Medical Informatics, and Department of Computer Sciences ,</li> <li>◇ University of Wisconsin-Madison, Madison, WI, 53706</li> </ul>