Zhaobin Kuang (a.k.a. Charles Kwong)

Contact Information	Google

Google
111 8th Ave
New York, NY 10011, USA

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Industry Experience

Senior Research Scientist	May 2022 – Present
Google Research	New York, NY, USA
Research Scientist	Sep 2020 – May 2022
Google Ads	Los Angeles, CA, USA
Research Summer Intern	May 2017 – Aug 2017
IBM Thomas J. Watson Research Center	Yorktown Heights, NY, USA

Education

Ph.D. and **M.S.** in Computer Sciences	June 2014 – August 2018
The University of Wisconsin, Madison (UW)	Madison, WI, USA
Advisor: David Page.	
M.S. in Applied and Computational Mathematics	August 2012 – June 2014
The University of Minnesota, Duluth (UMD)	Duluth, MN, USA
Advisors: Zhuangyi Liu and Richard Maclin.	
B.Eng. in Electrical Engineering and Automation	August 2008 – July 2012
Honors School	Harbin, Heilongjiang, China
The Harbin Institute of Technology (HIT)	

Awards

American Medical Informatics Association Doctoral Dissertation Award Top 3	2019
UW CS Graduate Student Research Award (best dissertation award at UW CS)	2018
UMD Math & Stat Graduate Student Service Award	2014
UMD Math & Stat Outstanding Graduate Award	2014
UMD Math & Stat Special Fellowship	2013
UMD Math & Stat Summer Research Fellowship	2013
HIT Freshman Fellowship (top admitted student in college entrance exams)	2008

Academic Experience

Postdoctoral Researcher	Sep 2018 – Aug 2020
Computer Science Department	Stanford, CA, USA
Stanford University	
Advisor: Christoper Ré.	
Research Assistant	Sep 2014 – May 2018
Computer Sciences Department	Madison, WI, USA
Department of Biostatistics and Medical Informatics	
The University of Wisconsin, Madison	
The Wisconsin Institutes for Discovery	
Research Assistant	Jan 2013 – May 2014
Department of Mathematics and Statistics	Duluth, MN, USA
Department of Computer Science	

The University of Minnesota, Duluth

Teaching Assistant Sep 2012 – Dec 2012

Department of Mathematics and Statistics Duluth, MN, USA

The University of Minnesota, Duluth

- Course taught: MATH 1160 – Finite Mathematics and Introduction to Calculus.

PAPERS Zhong-Jie Han, **Zhaobin Kuang**, and Qiong Zhang. *Stability Analysis for Abstract Theomoelastic Systems with Cattaneos Law and Inertial Terms*. Alphabetical authorship. Mathematical Control and Related Fields (MCRF), 2022, Accepted.

Zhaobin Kuang, Chidubem Arachie, Bangyong Liang, Pradyumna Narayana, Giulia Desalvo, Michael Quinn, Bert Huang, Geoffrey Downs, and Yang Yang. *Firebolt: Weak Supervision Under Weaker Assumptions*. International Conference on Artificial Intelligence and Statistics, 2022 (AISTATS 2022).

Zhaobin Kuang, Zhuangyi Liu, and Louis Tebou. *Optimal semigroup regularity for velocity coupled elastic systems: a degenerate fractional damping case*. Alphabetical authorship. ESAIM: Control, Optimisation and Calculus of Variations (ESAIM: COCV), 2022.

Zhaobin Kuang, Zhuangyi Liu, and Hugo D. Fernández Sare. *Regularity Analysis for an Abstract Thermoelastic System with Inertial Term*. Alphabetical authorship. ESAIM: Control, Optimisation and Calculus of Variations (ESAIM: COCV), 2021.

Zhaobin Kuang, Frederic Sala, Nimit Sohoni, Sen Wu, Aldo Cordova Palomera, Jared Dunnmon, James Priest, and Christopher Ré. *Ivy: Instrumental Variable Synthesis for Causal Inference*. International Conference on Artificial Intelligence and Statistics, 2020 (AISTATS 2020).

Wei Zhang, **Zhaobin Kuang**, Peggy Peissig, and David Page. *Adverse Drug Reaction Discovery from Electronic Health Records with Deep Neural Networks*. ACM Conference on Health, Inference, and Learning, 2020 (ACM CHIL 2020).

Sinong Geng, **Zhaobin Kuang**, David Page, Peggy Peissig, and Karen Hansen. *Parathyroid hormone independently predicts fracture, vascular events, and death in patients with stage 3 and 4 chronic kidney disease*. Osteoporosis International, 2019.

Sinong Geng*, **Zhaobin Kuang***, Peggy Peissig, and David Page. *Temporal Poisson Square Root Graphical Models*. *ZK and SG contributed equally. International Conference on Machine Learning, 2018 (ICML 2018).

Sinong Geng*, **Zhaobin Kuang***, Jie Liu, Stephen Wright, and David Page. *Stochastic Learning for Sparse Discrete Markov Random Fields with Controlled Gradient Approximation Error*. *ZK and SG contributed equally. Uncertainty in Artificial Intelligence, 2018 (UAI 2018).

Nicholas Escanilla, Lisa Hellerstein, Ross Kleiman, **Zhaobin Kuang**, James Shull, and David Page. *Recursive Feature Elimination by Sensitivity Testing*. IEEE Conference on Machine Learning and Applications, 2018.

Zhaobin Kuang, Sinong Geng, and David Page. *A Screening Rule for L1-Regularized Ising Model Estimation*. Neural Information Processing Systems, 2017 (NeurIPS 2017).

Zhaobin Kuang, Peggy Peissig, Vitor Santos Costa, Richard Maclin, and David Page. *Pharmacovigilance via Baseline Regularization with Large-Scale Longitudinal Observational Data*. Knowledge Discovery and Data Mining, 2017 (KDD 2017).

Yujia Bao, **Zhaobin Kuang**, Peggy Peissig, David Page, and Rebecca Willett. *Hawkes Process Modeling of Adverse Drug Reactions with Longitudinal Observational Data*. Machine Learning in Health Care, 2017 (MLHC 2017).

Finn Kuusisto, John Steill, **Zhaobin Kuang**, James Thomson, David Page, and Ron Stewart. *A Simple Text Mining Approach for Ranking Pairwise Associations in Biomedical Applications*. American Medical Informatics Association Joint Summit 2017 (AMIA 2017).

Zhaobin Kuang, James Thomson, Michael Caldwell, Peggy Peissig, Ron Stewart, and David Page. *Computational Drug Repositioning Using Continuous Self-controlled Case Series*. Knowledge Discovery and Data Mining, 2016 (KDD 2016).

Zhaobin Kuang, James Thomson, Michael Caldwell, Peggy Peissig, Ron Stewart, and David Page. *Baseline Regularization for Computational Drug Repositioning with Longitudinal Observational Data*. International Joint Conference on Artificial Intelligence, 2016 (IJCAI 2016).

Book Chapters   **Zhaobin Kuang**, Yujia Bao, James Thomson, Michael Caldwell, Peggy Peissig, Ron Stewart, Rebecca Willett, and David Page. *A Machine-Learning Based Drug Repurposing Approach Using Baseline Regularization.* Invited book chapter. In Silico Repurposing. Methods in Molecular Biology Series. Springer 2019.

Technical Reports   Sinong Geng, Houssam Nassif, **Zhaobin Kuang**, Max Reppen, and Ronnie Sircar. *Factor Learning Portfolio Optimization Informed by Continuous-Time Finance Models*. In Submission to the International Conference on Learning Representation, 2023.

Ross Kleiman, Paul Bennett, Peggy Peissig, **Zhaobin Kuang**, Scott Hebbring, Michael Caldwell, and David Page. *High-Throughput Machine Learning from Electronic Health Records*. Technical Report. arXiv, 2019.

Sinong Geng, **Zhaobin Kuang**, and David Page. *An Efficient Pseudo-likelihood Method for Sparse Binary Pairwise Markov Network Estimation*. Technical Report. arXiv, 2017.

Talks		
International Conference on Artificial Intelligence and Statistics		Aug 2020
Radix Trading, LLC		July 2020
Google, LLC		June 2020
Amazon.com, Inc.		June 2020
National Institutes of Health		March 2020
Stanford University (Stanford, CA, USA)		Apr 2018
NEC Laboratories America (Princeton, NJ, USA)		Feb 2018
Amazon.com, Inc. (Seattle, WA, USA)		Dec 2017
Massachusetts Institute of Technology (Cambridge, MA, USA)		Nov 2017
Criteo Research (Palo Alto, CA, USA)		Oct 2017
Int. Conf. Knowledge Discovery & Data Mining (Halifax, NS, Canada)		Aug 2017
Int. Joint Conf. Artificial Intelligence (New York City, NY, USA)		July 2016

PROFESSIONAL SERVICE	International Machine Learning Society (IMLS)	Member
	ACM Conference on Health, Inference, and Learning 2021, 2022	PC Member
	Association for the Advancement of Artificial Intelligence 2020, 2021	PC Member
	Knowledge Discovery and Data Mining 2019-2022	PC Member
	Uncertainty in Artificial Intelligence 2018	PC Member
	NeurIPS Machine Learning for Health 2017, 2018	PC Member
	NeurIPS Workshop on Relational Representation Learning 2018	PC Member
	Nature Communications	Reviewer
	Clinical Epidemiology	Reviewer
	Journal of Machine Learning Research	Reviewer
	Transaction of Machine Learning Research	Reviewer
	Artificial Intelligence in Medicine	Reviewer
	IEEE Transactions on Neural Networks and Learning Systems	Reviewer
	PLOS ONE	Reviewer
	Pattern Recognition	Reviewer
	IEEE Geoscience and Remote Sensing Letters	Reviewer
	IEICE Transactions on Information and Systems	Reviewer
	Data Mining and Knowledge Discovery	Reviewer
	Gene Reports	Reviewer
	International Conference on Artificial Intelligence and Statistics 2022	Reviewer
	International Conference on Machine Learning 2019-2022	Reviewer
	International Conference on Learning Representation 2019-2022	Reviewer
	IEEE ICMLA Special Session on Algorithms 2018	Reviewer
	Neural Information Processing System 2018-2021	Reviewer
	Machine Learning for Health Care 2018-2021	Reviewer
	AMIA Informatics Summit 2018, 2019, 2021	Reviewer
	IEEE Int. Symp. on Biomedical Imaging 2014, 2017-2019	Reviewer

MENTEES	**Reza Esfandiarpoor**	Google Ph.D. Research Intern, 2021
	Brown CS Ph.D. student	
	Yixuan Ye	Google Data Science Intern, 2021
	Yale Statistics Ph.D.	Data Scientist at Google
	Chidubem Arachie	Google Ph.D. Research Intern, 2021
	Virginia Tech CS Ph.D.	Software Engineer at Google
	Yujia Bao	UW M.S., 2016-2017
	MIT CS Ph.D.	Senior ML Scientist at Emerald
	Sinong Geng	UW M.S., 2016-2018
	Princeton CS Ph.D. student	Incoming Quantitative Researcher at Two Sigma

TECHNICAL SKILLS	Programming Languages	C/C++, Java, Python, R, Matlab, and Mathematica
	Data Analytics	PyTorch, TensorFlow, SQL, Hadoop, and Spark

MISCELLANEOUS	Erdős Number	3
	Languages	Cantonese, English, and Mandarin
	High School	Zhuhai No.1 High School
	Legal Name/Alias	Zhaobin Kuang/Charles Kwong