Xuhong Zhang

CONTACT INFORMATION

3012 Luddy Hall
700 N Woodlawn Ave
Bloomington, IN 47408

Office: (812)-855-9035
Mobile:+1-(949)-527-1962
E-mail: zhangxuh@indiana.edu

RESEARCH INTERESTS

Computational and Applied Statistics; Bayesian Nonparametric; Data Mining and Machine Learning; Computational Biology; Social and Biological Networks.

PROFESSIONAL EXPERIENCE

Assistant Professor
Department of Computer Science, Luddy School of Informatics, University of Indiana, Bloomington, IN — *Aug 2020 to current*
Data Science Program, Luddy School of Infomratics, University of Indiana, Bloomington, IN — *Dec 2020 to current*

Postdoctoral Fellow — *Sep 2017 to Jul 2020*
Biostatistics and Informatics, Colorado School of Public Health, Aurora, CO

EDUCATION

University of California, Irvine, CA, USA — *Sep 2011 to Jun 2017*
PhD, Electrical Engineering & Computer Science

Dissertation: Social Relationships and Dynamics: A Frequency Perspective.
Committee: Carter T. Butts (Chair), Athina Markopoulou, Katherine Faust
Examination Fields: Data Mining, Social Networks

Beijing University of Posts and Telecommunications, Beijing, China — *Sep 2006 to Apr 2009*
State Key Laboratory of Networking And Switching Technology
M.S., Computer Science
Advisor: Dongliang Xie

Jilin University, Changchun, China — *Sep 2002 to Jun 2006*
College of Computer Science and Technology
B.S., Computer Science

EMPLOYMENTS

Senior Data Scientist (Part Time) — *Sep 2016 to Apr 2018*
M2 Catalyst, Aliso Viejo, CA

Project Coordinator (Part Time) — *Jun 2016 to Apr 2018*
M2 Catalyst, Aliso Viejo, CA

Senior Data Scientist Intern — *Jun 2016 to Sep 2016*
M2 Catalyst, Aliso Viejo, CA

Graduate Student Researcher — *Sep 2011 to Jun 2017*
University of California, Irvine, CA
Networks, Computation, and Social Dynamics Lab

GRANTS

NSF Scholarship for SDSC Summer Institute — *Aug 2018*
SDSC, San Diego, USA

UCI AGS Student Travel Grant — *Mar 2017*
PerCom'17, Hawaii, USA

NSF Student Travel Grant — *Mar 2016*
PerCom'16, Sydney, Australia

NSF Travel Fellowship — *Jun 2013*
6th POLNET, Bloomington, USA

BOOK CHAPTERS

Xing F, **Zhang X**, Cornish TC. "Artificial Intelligence for Pathology." *Artificial Intelligence in Medicine*, pp. 183-221, Chapter 11, Elsevier. (2021). DOI: 10.1016/B978-0-12-821259-2.00011-9

JOURNAL ARTICLES

Zhang X, Cornish TC, Ghosh D, Xing F. "Cross-Domain Consistent Adversarial Learning for Single-Stage Nucleus Recognition." *(submitted to) Pattern Recognition.*

Zhang X, Cornish TC, Yang L, Bennett T, Ghosh D, Xing F. "Generative Adversarial Domain Adaption for Nucleus Quantification in Ki67 Images." *JCO Clinical Cancer Informatics.* (2020) 4, 666-679. DOI: 10.1200/CCI.19.00108.

Portz J, Elbernd K, Plys E, Ford KL, **Zhang X**, Gore O, Moore SL, Zhou S, Bull S. "Elements of Social Convoy Theory in mHealth for Palliative Care: A Scoping Review." *JMIR mHealth and uHealth.* (2020)8(1):e16060. DOI: 10.2196/16060

Rudra P, Cortés EC, **Zhang X**, Ghosh D. "Multiple testing approaches for hypotheses in integrative genomics." *WIREs Computational Statistics.* (2019):e1493. DOI: 10.1002/wics.1493

Ford KL, Moore SL, Zhou S, Gore O, Protz J, **Zhang X**, Zane R, Wiler J, Bull S. "Advancing evidence-based digital health through an innovative research environment: An academic-industry partnership case report." *mHealth.* (2019)5:37. DOI: 10.21037/mhealth.2019.08.08

Zhang X and Butts CT. "Activity Correlation Spectroscopy: A New Method for Inferring Social Relationships from Activity Data." *Social Network Analysis and Mining.* (2017)7:1. DOI: 10.1007/s13278-016-0419-9

Butts CT, **Zhang X**, Kelly J, Roskamp K, Unhelkar M, Freites AJ, Tahir S and Martin RW. "Sequence Comparison, Molecular Modeling, and Network Analysis Predict Structural Diversity in Cysteine Proteases from the Cape Sundew, Drosera Capensis." *Computational and Structural Biotechnology Journal.* (2016) 14, 271–282. DOI: 10.1016/j.csbj.2016.05.003

CONFERENCE PAPERS

Zhou S, **Zhang X**, Portz J, Moore S, Gore M, Li Q, Levinson A, Bull S. "A Pilot Study and Ecological Model of Smoking Cues to Inform mHealth Strategies for Quitting among Low-income Smokers." *70th Annual International Communication Association Conference (ICA 2020).* Gold Coast, Australia. DOI: 10.1177/1524839920942214

Zhang X, Mallepudi V and Butts CT. "An Integrated Platform for Collecting Mobile Phone Data and Learning Demographic Features". *IEEE International Conference on Pervasive Computing and Communications (PerCom 2017).* Kona, Hawaii. DOI: 10.1109/PER-COMW.2017.7917514

Zhang X and Butts CT. "A Novel Multivariate Spectral Regression Model for Learning Relationships Between Communication Activity and Urban Ecology." *IEEE International Conference on Pervasive Computing and Communications (PerCom 2016).* Sydney, Australia. DOI: 10.1109/PERCOM.2016.7456525

CONFERENCE PRESENTATIONS

Zhang X, Mallepudi V and Butts CT. "An Integrated Platform for Collecting Mobile Phone Data and Learning Demographic Features". *Percom 2017, Kona, Hawaii.*   *Mar 2017*

Zhang X and Butts CT. "Inferring Urban Activity Distribution From Aggregated Egocentric Communication Data." *36th Sunbelt Network Conference (INSNA), Newport Beach, CA.*   *Apr 2016*

Zhang X and Butts CT. "A Novel Multivariate Spectral Regression Model for Learning Relationships Between Communication Activity and Urban Ecology." *Percom 2016, Sydney, Australia.*   *Mar 2016*

Zhang X and Butts CT. "Inferring Social Relationships from Activity Correlation Spectroscopy." *34th Sunbelt Network Conference (INSNA), St. Pete Beach, FL.*   *Feb 2014*

INVITED TALKS & GUEST LECTURES

Zhang X. "Generative Adversarial Domain Adaptation for Nucleus Quantification in Ki67 Images." *University of Indiana CS events. Bloomington, IN.*   *Mar 2020*

Zhang X. "Mass Cytometry and Beyond." *ICSA 2019 Applied Statistics Symposium. Raleigh, NC.*   *Jun 2019*

Zhang X. "Clustering CyTOF Data Using Nonparametric Bayesian Model." *American Statistical Association Colorado-Wyoming Chapter. Denver, CO.*   *Oct 2018*

BIOS 6640 Python and R in Data Science, *Biostatistics and Informatics, CSPH, Aurora, CO.*   *Fall 2018*

Zhang X. "Spectral Analysis: A New Perspective For Mining Human Activity Data". *Biostatistics and Informatics, CSPH, Aurora, CO.*   *May 2017*

POSTER PRESENTATIONS & ABSTRACTS

Bunik M, Jimenez-Zambrano A, Beaty B, Solari M, Moore S, **Zhang X**, Bull S, Leiferman J. " Mother's Milk Messaging™ (MMM): Mixed Methods Evaluation of Bilingual App and Texting Program to Support Breastfeeding." *Pediatric Academic Societies Meeting (PAS 2020).* Philadelphia, PA.

Zhang X, Ghosh D, Hsieh E. "Bayesian Nonparametric for High-Dimensional Single Cell Clustering."*CCTSI CU-CSU Summit, Westminister, CO.*   *Aug 2019*

Zhang X, Yin F, Freites AJ, Roskamp KW, Martin RW and Butts CT. "Bayesian and Network Analytic Methods for Protein Structure and Dynamics." *1st CAMP poster session, UCI, Irvine, CA.*   *Jan 2017*

Zhang X and Butts CT. "Inferring Social Relationships from Activity Correlation Spectroscopy." *34th Sunbelt Network Conference (INSNA), St. Pete Beach, FL.*   *Feb 2014*

AWARDS

2nd Prize   *2017*
1st *Annual Poster Session of the Chemical and Materials Physics Program UC-Irvine, Irvine, CA*

Distinguished Grad Student   *2009*
Top 1% students, BUPT, Beijing, China

Distinguished Student   *2003, 2004, 2005*
Top 5% students, Jilin University, Changchun, China

Second-Class Scholarship   *2003, 2004, 2005*
Jilin University, Changchun, China

Model Student   *2002*
Jilin University, Changchun, China

Model Student   *2002*
Jilin University, Changchun, China

OTHER PROFESSIONAL PRESENTATIONS

Presenter, "A Survey of CPU-GPU Heterogeneous Computing Technologies." *CSPH, Aurora, CO.*   *May 2019*

Presenter, "Mastering the game without human knowledge." *CSPH, Aurora, CO.*   *Mar 2018*

TEACHING EXPERIENCE

Instructor   *Spring 2021*
CS-B659 Medical Image Analysis, *Department of Computer Science, University of Indiana, Bloomington, IN.*

Instructor   *Fall 2020*
CS-P556 Applied Machine Learning, *Department of Computer Science, University of Indiana, Bloomington, IN.*

Mentor   *Jan 2020*
HACKATHON
Center for Innovative Design & Analysis, CSPH, Aurora, CO

Instructor   *Spring 2020*
BIOS 6642 Introduction to Python Programming, *Biostatistics and Informatics, CSPH, Aurora, CO.*

Instructor   *Fall 2017*
BIOS 6601 Applied Statistics, *Biostatistics and Informatics, CSPH, Aurora, CO.*

Mentor   *May 2016*
HACKATHON
M2Catalyst & UCI Mobile Data Science

Workshop Assistant

- *"Introduction to Social Network Analysis with R and statnent", 36th Sunbelt Conference, Newport Beach, CA.*   *Apr 2016*
- *"Moving beyond Descriptives: Basic Network Statistics with statnet", 36th Sunbelt Conference, Newport Beach, CA.*   *Apr 2016*
- *"Modeling Relational Event Dynamics with statnet", 36th Sunbelt Conference, Newport Beach, CA.*   *Apr 2016*

- *"Modeling Relational Event Dynamics with statnet", 34th Sunbelt Conference, St. Pete Beach, FL.* *Feb 2014*
- *"Exponential-family Random Graph Modeling (ERGMs) with statnet", 34th Sunbelt Conference, St. Pete Beach, FL.* *Feb 2014*
- *"Exponential Family Random Graph Models for Social Networks", 6th POLNET Conference, Bloomington, IN* *Jun 2013*
- *"TERGM: Exponential Random Graph Models for Dynamic Network Data", 6th POLNET Conference, Bloomington, IN* *Jun 2013*

Mentor *Jun 2014 to Sep 2014*
University of California, Irvine, CA
Networks, Computation, and Social Dynamics Lab
Research Mentor for Undergrad Lab Rotation Students

Instructor *Dec 2007 to May 2008*
Beijing Univ. of Posts and Telecommunications
Instructor for Undergraduate Thesis Design

Teaching Assistant *Sep 2006 to Jul 2007*
Beijing Univ. of Posts and Telecommunications

- Discrete Mathematics
- Principles of Computer Composition

REVIEWER

IEEE International Symposium on Biomedical Imaging (ISBI). *Venice, Italy* *Apr 8-11, 2019*

COMMITTEE AND SERVICE

Search Committee for Research Assistant Professor, *mHealth, CSPH, Aurora, CO.* *Aug 2018*

Health Analytics and Data Science Program,*Biostatistics and Informatics, CSPH, Aurora, CO* *Jul 2018*

- one of the founding committee members

PROFESSIONAL ASSOCIATIONS

International Network for Social Network Analysis (INSNA)
IEEE Young Professionals
IEEE Women in Engineering (WIE)
American Political Science Association (APSA)

VOLUNTEER

Children's Hospital Colorado
Young Hands in Science

OTHER INFORMARION

Language: Mandarin, English