CONFERENCE ON STATISTICAL LEARNING AND DATA SCIENCE

• SCHEDULE •

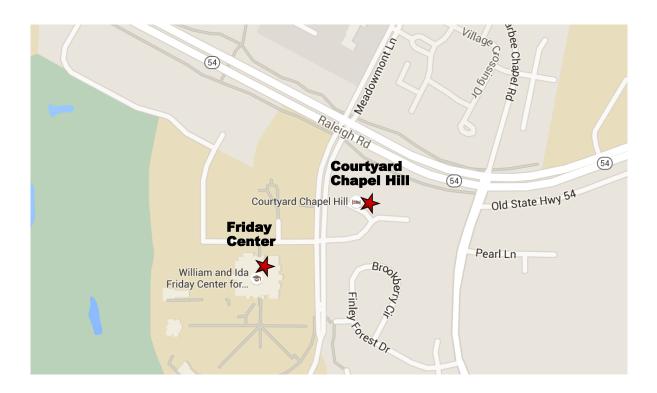


JUNE 6-8, 2016 CHAPEL HILL, NC



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MAP





SPONSORS

 The American Statistical Association Section on Statistical Learning and Data Science



• Institute for Operations Research and the Management Sciences (INFORMS) Data Mining Section



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- YIN XIA (UNIVERSITY OF NORTH CAROLINA)
- Donglin Zeng (University of North Carolina)
- Kai Zhang (University of North Carolina)

SCHEDULE

Monday, June 6

7:30-8:30am	Registration & Continental Breakfast - Atrium Center
	
8:30-8:55am Dogwood AB	Welcome Professor Amarjit Budhiraja Chair, Department of Statistics and Operations Research, UNC
9:00-10:30am	Parallel Sessions
7.00 10.30am	rai allei Sessiolis
Dogwood AB	Theoretical Statistical Learning
	(organized by Yin Xia, UNC; chaired by Jan Hannig, UNC)
9:00-9:30am	Florentina Bunea (Cornell University)
	Minimax Optimal Variable Clustering in G-Models
9:30-10:00am	Andrew Nobel (UNC)
	Large Average Submatrices of a Gaussian Random Matrix: Be- havior of Global and Local optima
10:00-10:30am	Kai Zhang (UNC)
	Packing Inference of Correlation for an Arbitrarily Large Number of Variables
<u>Azalea AB</u>	Distributed Optimization Methods for Machine Learning
Azalea AB	Distributed Optimization Methods for Machine Learning (organized and chaired by Yan Xu, SAS)
<u>Azalea AB</u> 9:00-9:30am	-
	(organized and chaired by Yan Xu, SAS)
	(organized and chaired by Yan Xu, SAS) Alireza Yektamaram (Lehigh University and SAS)
9:00-9:30am 9:30-10:00am	(organized and chaired by Yan Xu, SAS) Alireza Yektamaram (Lehigh University and SAS) A Nonconvex Hessian-free Method for Deep Learning Problems Jorge Silva (SAS) Learning Good Ensembles: New Approaches
9:00-9:30am	(organized and chaired by Yan Xu, SAS) Alireza Yektamaram (Lehigh University and SAS) A Nonconvex Hessian-free Method for Deep Learning Problems Jorge Silva (SAS) Learning Good Ensembles: New Approaches Patrick Koch (SAS)
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9:00-9:30am 9:30-10:00am 10:00-10:30am Mountain Laurel AB	(organized and chaired by Yan Xu, SAS) Alireza Yektamaram (Lehigh University and SAS) A Nonconvex Hessian-free Method for Deep Learning Problems Jorge Silva (SAS) Learning Good Ensembles: New Approaches Patrick Koch (SAS) Local Search Optimization for Hyper-Parameter Tuning Applied Learning and Analysis (organized and chaired by Cynthia Rudin, MIT)
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SLDS 2010	7
10:00-10:30am	Stefano Traca (MIT)
	Regulating Greed Over Time
Bellflower AB	Network Inference
	(organized by Karl Rohe, Univ. Wisconsin Madison; chaired by Bailey Fosdick, Colorado State)
9:00-9:30am	Can Le (University of Michigan)
	Structure of sparse random networks
9:30-10:00am	Daniel Sussman (Harvard University)
	Unbiased Estimation of Causal Effects under Network Interference
10:00-10:30am	Alexander Volfovsky (Harvard/ Duke)
	Testing and estimation for relational data
10:30-11:00am	Break - <u>Atrium Center</u>
11:00am-12:00pm	Plenary Talk (chaired by Richard Smith, SAMSI & UNC)
Dogwood AB	Bin Yu, UC Berkeley Unveiling the mysteries in spatial gene expression
	Unvening the mysteries in spatial gene expression
12:00-1:30pm	Lunch - Trillium AB
12.00-1.30pm	Euricii - <u>milium Ab</u>
1:30-3:00pm	Parallel Sessions
1.30-3.00pm	Parallel Sessions
Dogwood AP	New Decideration Techniques
<u>Dogwood AB</u>	New Regularization Techniques (organized by Ji Zhu, Univ. Michigan), chaired by Appie Ou, UJUC)
1,20 2,00	(organized by Ji Zhu, Univ. Michigan; chaired by Annie Qu, UIUC)
1:30-2:00pm	Cun-Hui Zhang (Rutgers University)

2:30-3:00pm	Qing Mai (Florida State University)
	Multiclass Sparse Discriminant Analysis
<u>Azalea AB</u>	Machine Learning on Big Data
	(organized and chaired by Matt Taddy, Univ. of Chicago)
1:30-2:00pm	Daniel Roy (University of Toronto)
	Sparse Random Graphs arising from Exchangeable Random Measures
2:00-2:30pm	Rebecca Steorts (Duke University)
	Why infinite exchangeable mixture models fail for sparse data sets yet microclustering succeeds

Nonparametric Shrinkage Estimation

Optimal Structure-Induced Network Estimation

Fang Han (University of Washington)

2:00-2:30pm

2:30-3:00pm	Yichao Wu (NCSU)
	Principal Weighted Support Vector Machines for Sufficient Di- mension Reduction in Binary Classification
Mountain Laurel AB	High Dimensional Learning Methods and Theory
	(organized by Xiaotong Shen, Univ. of Minnesota; chaired by Wei Sun, Fred Hutchinson Cancer Research Center)
1:30-2:00pm	Jan Hannig (UNC)
	Generalized fiducial inference for high-dimensional data
2:00-2:30pm	Yiyuan She (Florida State University)
	Indirect Gaussian Graph Learning beyond Gaussianity
2:30-3:00pm	Zhigen Zhao (Temple University)
	A new approach to multiple testing of grouped hypotheses
Bellflower AB	New Mining Tools for Complex Data
	(organized by Hao Helen Zhang, U. Arizona; chaired by Xiaoli Gao, UNC -Greensboro)
1:30-2:00pm	Ping Ma (University of Georgia)
	Smoothing spline ANOVA for super-large samples
2:00-2:30pm	Junming Yin (University of Arizona)
	Latent Space Inference of Internet-Scale Networks
2:30-3:00pm	Boxiang Wang (University of Minnesota)
	Another Look at DWD
3:00-3:30pm	Break - <u>Atrium Center</u>
3:30-5:00pm	Parallel Sessions
<u>Dogwood AB</u>	Machine Learning for Imaging and Medical Applications
	(organized and chaired by Donglin Zeng, UNC)
3:30-4:00pm	Dinggang Shen (UNC)
	Machine Learning in Medical Imaging Analysis
4:00-4:30pm	Yuanjia Wang (Columbia University)
	Support Vector Hazards Machine: A Counting Process Frame- work for Learning Risk Scores for Censored Outcomes
4:30-5:00pm	Ming Yuan (University of Wisconsin Madison)
	Structured Correlation Detection with Application to Colocalization Analysis in Dual-Channel Fluorescence Microscopic Imaging

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	,
<u>Azalea AB</u>	High-dimensional Inference
	(organized and chaired by Kai Zhang, UNC)
3:30-4:00pm	Anru Zhang (University of Wisconsin at Madison)
	Rate-Optimal Perturbation Bounds for Singular Subspaces with Applications to High-Dimensional Statistics
4:00-4:30pm	Han Liu (Princeton University)
	Combinatorial Inference
4:30-5:00pm	Shu Lu (UNC)
	Confidence Regions and Intervals for Sparse Penalized Regression Using Variational Inequality Techniques
Mountain Laurel AB	Topics on High Dimensional Learning and Inference
	(organized and chaired by Genevera Allen, Rice Univ.)
3:30-4:00pm	Johannes Lederer (University of Washington)
	Efficient Feature Selection With Big Data
4:00-4:30pm	Weijie Su (Stanford University)
	Multiple Testing and Adaptive Estimation via the Sorted L-One Norm
4:30-5:00pm	Stefan Wager (Stanford University)
	Causal Inference with Random Forests
Bellflower AB	Biopharmaceutical Applications
	(organized and chaired by Robert Warnock, UCB Biosciences Inc.)
3:30-4:00pm	Bhargav Reddy (UCB Biosciences Inc.)
	Predicting Disease State in Crohn's Patients using Clinical Trial Data
4:00-4:30pm	Holger Frohlich (UCB Biosciences Inc.)
	Re-Use of Randomized Clinical Trials Data for Predictive Model- ing in Epilepsy and Systemic Lupus Erythematosus
4:30-5:00pm	Scott Clark (Eli Lilly)
	Discussion and vision of future developments in pharmaceutical research

TUESDAY, JUNE 7

7:30-8:30am	Continental Breakfast - <u>Atrium Center</u>
8:30-10:00am	Parallel Sessions
Dogwood AB	The Challenges of machine learning methods and computing tools for large-scale data
	(organized by Annie Qu, UIUC; chaired by Yufeng Liu, UNC)
8:30-9:00am	Heping Zhang (Yale University)
	Inference with unequal knowledge: nuisance penalized regression, conditional distance correlation, and prior LASSO
9:00-9:30am	Annie Qu (UIUC)
	A Group-Specific Recommender System
9:30-10:00am	Yuan Zhang (University of Michigan)
	Estimating network edge probabilities by neighborhood smoothing
Azalea AB	Inference and Estimation in Statistical Machine Learning
	(organized and chaired by Han Liu, Princeton)
8:30-9:00am	Adel Javanmard (USC)
	Online Rules for Control of False Discovery Rate
9:00-9:30am	Zhao Ren (University of Pittsburgh)
	Robust Covariance/Scatter Matrix Estimation via Matrix Depth
9:30-10:00am	Zhaoran Wang (Princeton University)
	Probing the Pareto Frontier of Computational-Statistical Tradeoffs
Mountain Laurel AB	Network Analysis and Inference tools
	(organized by Kai Zhang, UNC; chaired by Mu Zhu, Univ. Waterloo)
8:30-9:00am	Shankar Bhamidi (UNC)
	Change Point Detection in Evolving Network Models
9:00-9:30am	Xi Luo (Brown University)
	Network Communities and Variable Clustering: A Covariance Matrix Approach
9:30-10:00am	Pingshou Zhong (Michigan State University)
	Tests for Covariance Structures with High-dimensional Repeated Measurements

Bellflower AB	Discovery of Features and Patterns
	(organized by Cynthia Rudin MIT; chaired by Yiyuan She, Florida State Univ.)
8:30-9:00am	Genevera Allen (Rice University)
	Algorithmic Regularization Paths: A New Approach to Variable Selection for High-Dimensional, Highly Correlated Data
9:00-9:30am	Lauren Hannah (Columbia University)
	Statistically Summarizing Labeled Text Data
9:30-10:00am	Shawn Mankad (Cornell University)
	Single Stage Prediction with Text Data using Dimension Reduction Techniques
10:00-10:30am	Break - <u>Atrium Center</u>
10:30-11:30am	Plenary Talk (chaired by Michael Kosorok, UNC)
<u>Dogwood AB</u>	Susan A. Murphy, University of Michigan Assessing Time-Varying Causal Effect Moderation in Intensive Time- Varying Treatment
11:30-1:00pm	Lunch - Trillium AB
1:00-2:30pm	Parallel Sessions
<u>Dogwood AB</u>	Network and Graphical Models
	(organized by Hernando Ombao, UC Irvine; chaired by Yunzhang Zhu, Ohio State)
1:00-1:30pm	Ali Shojaie (University of Washington)
	Network Reconstruction from High Dimensional Ordinary Dif- ferential Equations
1:30-2:00pm	Lina Lin (University of Washington)
	Estimation of High-dimensional Graphical Models using Regu- larized Score Matching
2:00-2:30pm	Shuo Chen (University of Maryland)
	Network induced large covariance matrix estimation
Azalea AB	Flexible Methods for Genomic data
	(organized by Yufeng Liu, UNC; chaired by Guan Yu, UNC)
1:00-1:30pm	Wei Sun (Fred Hutchinson)
	A Two-Step Approach to Estimate the Skeletons of High- Dimensional Directed Acyclic Graphs

1:30-2:00pm	Yuying Xie (Michigan State University)
1.50 2.00pm	Joint Estimation of Multiple Dependent Gaussian Graphical
	Models with Applications to Mouse Genomics
2:00-2:30pm	Dongmei Li (University of Rochester)
	An evaluation of statistical methods for RNA-Seq data analysis
Mountain Laurel AB	Computational Methods in Statistics
	(organized and chaired by Sahand Neghaban, Yale Univ.)
1:00-1:30pm	Constantine Caramanis (UT Austin)
	High-dimensional EM algorithm
1:30-2:00pm	Amin Karbas (Yale University)
	Data as a Computational Resource: The Power of Data Summarization
2:00-2:30pm	Garvesh Raskutti (University of Wisconsin Madison)
	High-dimensional Poisson auto-regressive models for dynamic network modeling
Bellflower AB	Now developments for analysing complex data
<u>beilliower Ab</u>	New developments for analyzing complex data (organized and chaired by Vingyo Oice, SUNY Binghamton)
1:00-1:30pm	(organized and chaired by Xingye Qiao, SUNY Binghamton) Xi Chen (NYU)
1.00-1.50pm	Optimal Stopping and Worker Selection in Crowdsourcing: an
	Adaptive Sequential Probability Ratio Test Framework
1:30-2:00pm	Jacob Bien (Cornell University)
	Lag Structured Modeling for High Dimensional Vector Auto- regression
2:00-2:30pm	Ganggang Xu (Binghamton University)
	A simple averaged post-model-selection confidence interval
2:30-3:00pm	Break - <u>Atrium Center</u>
3:00-4:30pm	Parallel Sessions
<u>Dogwood AB</u>	Causal Inference
	(organized and chaired by Eric Laber, NCSU)
3:00-3:30pm	Tyler McCormick (University of Washington)
	Standard errors for exchangeable relational arrays
3:30-4:00pm	Long Nguyen (University of Michigan)
	Bayesian Nonparametric Multilevel Clustering with Group-Level Contexts
4:00-4:30pm	Cynthia Rudin (MIT)
	Causal Falling Rule Lists

Azaloa AP	Machine Learning for Structured Data
<u>Azalea AB</u>	Machine Learning for Structured Data
	(organized by Xiaotong Shen, Univ. Minnesota; chaired by Shu Lu, UNC)
3:00-3:30pm	Shuheng Zhou (University of Michigan)
	High-dimensional statistical modeling and estimation with ma- trix variate data
3:30-4:00pm	Xingye Qiao (Binghamton University)
	Noncrossing Ordinal Classification
4:00-4:30pm	Yunzhang Zhu (Ohio State University)
	High-dimensional Multivariate Regression
Mountain Laurel AB	Inference for regularized estimation in high dimensions
	(organized and chaired by Ali Shojaie, Univ. Washington)
3:00-3:30pm	Max G'Sell (CMU)
	Model selection via sequential goodness-of-fit testing
3:30-4:00pm	Mladen Kolar (University of Chicago)
	Post-Regularization Confidence Bands for High-Dimensional Nonparametric Models with Local Sparsity
4:00-4:30pm	Sen Zhao (University of Washington)
	High-Dimensional Hypothesis Testing with the Lasso
Bellflower AB	New learning tools for complex data and beyond
	(organized by Yufeng Liu, UNC; chaired by David Pritchard UNC)
3:00-3:30pm	J. Paul Brooks (Virginia Commonwealth University)
	Estimating L1-Norm Best-Fit Lines
3:30-4:00pm	Chengyong Tang (Temple University)
	Precision Matrix Estimation by Inverse Principal Orthogonal Decomposition
4:00-4:30pm	Mu Zhu (University of Waterloo)
	Networks, Small G Proteins, and Basketball Games
4:30-6:30pm	Poster Session - Atrium Center
6:30-8:30pm	Banquet - <u>Trillium AB</u>
	Speaker: J.S. Marron (UNC)

WEDNESDAY, JUNE 8

7:30-8:30am	Continental Breakfast - <u>Atrium Center</u>
8:30-10:00am	Parallel Sessions
Dogwood AB	Machine learning for precision medicine
	(organized by Yufeng Liu, UNC; chaired by Dacheng Liu, Boehringer Ingelheim)
8:30-9:00am	Donglin Zeng (UNC)
	Estimating Personalized Diagnostic Rules via Weighted Support Vector Machines
9:00-9:30am	Yingqi Zhao (Fred Hutchinson)
	Develop Parsimonious and Robust Treatment Strategies for Target Populations
9:30-10:00am	Haoda Fu (Eli Lily)
	Personalized Medicine, Machine Learning and Artificial Intelligence: Challenges and Opportunities
Azalea AB	New developments on sufficient dimension reduction and envelope estimation
	(organized and chaired by Yichao Wu, NCSU)
8:30-9:00am	Andreas Artemiou (Cardiff University)
	Robustifying sufficient dimension reduction against inliers and outliers
9:00-9:30am	Zhihua Su (University of Florida)
	Groupwise Envelope Models for Imaging Genetic Analysis
9:30-10:00am	Xin Zhang (Florida State University)
	Some Recent Advances in Envelope Methodology
Mountain Laurel AB	New Sparse Methods for Regression and Classification
	(organized by Hao Helen Zhang; University of Arizona; chaired by Zhigen Zhao, Temple Univ.)
8:30-9:00am	Ning Hao (University of Arizona)
	A rotate-and-solve procedure for high dimensional classifica- tion
9:00-9:30am	Gen Li (Columbia University)
	Supervised Integrative Principal Component Analysis
9:30-10:00am	Sijian Wang (University of Wisconsin Madison)
	Sparse additive index model for group variable selection

SLDS 2010	15		
10:00-10:30am	Break - <u>Atrium Center</u>		
10:30-11:30am	Plenary Talk (chaired by Eric Laber, NCSU)		
Dogwood AB	Michael R. Kosorok, UNC The Evolution of Data Science and Statistics		
	The Evolution of Data Science and Statistics		
11:30-1:00pm	Lunch - Trillium AB		
11.30 1.00pm	Tallett Hilliam Ab		
1:00-2:30pm	Parallel Sessions		
Dogwood AB	Data Integration and Meta Analysis		
	(organized and chaired by Quefeng Li, UNC)		
1:00-1:30pm	Haitao Chu (University of Minnesota)		
	Bayesian Hierarchical Models for Multiple Diagnostic Tests Meta -analysis		
1:30-2:00pm	Shuangge Ma (Yale University)		
	Integrating multidimensional omics data for cancer prognosis		
2:00-2:30pm	Chi Song (Ohio State University)		
	A Bayesian Method for Transcriptomic Meta-analysis – Explor- ing the Homogeneity and Heterogeneity		
Azalea AB	Flexible Learning Tools and Applications		
	(organized and chaired by Yuying Xie, MSU)		
1:00-1:30pm	Wei Sun (Yahoo)		
	Provable Sparse Tensor Decomposition and Its Application to Personalized Recommendation		
1:30-2:00pm	Peng Wang (University of Cincinnati)		
	Selection by Partitioning the Solution Paths		
2:00-2:30pm	Tian Zheng (Columbia University)		
	Topic-adjusted visibility metric for scientific articles		
Mountain Laurel AB	New Sparse Learning Techniques		
	(organized by Yin Xia, UNC; chaired by Jingxiang Chen UNC)		
1:00-1:30pm	Botao Hao (Purdue University)		
	Simultaneous Clustering and Estimation of Multiple Graphical Models		
1:30-2:00pm	Aaron Molstad (University of Minnesota)		
	Indirect multivariate response linear regression		

16 **SLDS 2016** 2:00-2:30pm Xue Wang (Penn. State University) Folded Concave Penalized Nonconvex Learning via a Modern Optimization Lens 2:30-3:00pm Break - Atrium Center 3:00-4:30pm **Parallel Sessions** Dogwood AB **Data Science and Networks: Methodology and Applications** (organized and chaired by Shankar Bhamidi, UNC) Bailey Fosdick (Colorado State University) 3:00-3:30pm Multiresolution models for networks 3:30-4:00pm Anand Vidhyashankar (George Mason University) Implicit Networks in High Dimensional Problems 4:00-4:30pm James Wilson (University of San Francisco) A Significance-based Community Extraction Method for Multilayer Networks

<u>Azalea AB</u>	Industrial Applications (organized by Cynthia Rudin, MIT; chaired by J. Paul Brooks, Virginia Commonwealth Univ.)		
3:00-3:30pm	Veena Mendiratta (Bell Labs, Alcatel-Lucent)		
	Anomaly Detection in Wireless Networks using Mobile Phone Data		
3:30-4:00pm	Matthew Lanham (Virginia Tech)		
	A Framework for Combining Statistical & Business KPIs for Low -Turn Product Forecasts		
4:00-4:30pm	Roshanak Nateghi (Purdue University)		
	Predicting Observed GRACE Satellite Groundwater Storage Trends Using Data in 81 Countries		

Mountain Laurel AB	Modern Statistical Learning Methods for Big Data		
	(organized by Yingying Fan USC; chaired by Siliang Gong UNC)		
3:00-3:30pm	Will Fithian (UC Berkeley)		
	Local Case-Control Sampling: Efficient subsampling in imbal- anced data sets		
3:30-4:00pm	Kun Chen (University of Connecticut)		
	Sequential Estimation in Sparse Factor Regression		
4:00-4:30pm	Yuekai Sun (UC Berkeley)		
	Feature distributed sparse regression		

Poster Information

June 07, 4:30-6:30pm

1. Anthony S. Abrantes (UNC)

Classifying EEG data for working memory load

2. Xuan Bi (UIUC)

A Group-Specific Recommender System

3. Kelly Bodwin (UNC)

Coherent Itemset Mining

4. Frederick Campbell (Rice University)

Within Group Variable Selection through the Exclusive Lasso

5. Jingxiang Chen (UNC)

Estimating Individualized Treatment Rules for Ordinal Treatments

6. Glen Colopy (University of Oxford)

Personalized Patient Monitoring with Gaussian Processes using Fast Adaptive Kernel Selection

7. Derek Feng (Yale University)

ABtree: An Algorithm for Subgroup-Based Treatment Assignment

8. Siliang Gong (UNC)

Testing-based Variable Selection for High-dimensional Linear Models

9. Nhat Ho (University of Michigan)

Singularity Structures and Parameter Estimation in Finite Mixtures of Skew Normal Distributions

10. Wenhao Hu (NCSU)

Assessing Tuning Parameter Selection Variability in Penalized Regression

11. Meilei Jiang (UNC)

A Novel Method for Identifying Community Subtypes in the Sparse Microbiome of the Infected Lower Lung

12. Dehan Kong (UNC)

High-dimensional Matrix Linear Regression Model

13. Vered Madar (SAMSI)

New and Simpler Algebraic Framework for Generating Correlated Random Variables

14. Christian Mueller (Simons Foundation)

Generalized Stability Approach for Regularized Graphical Models

15. John Palowitch (UNC)

The Continuous Configuration Model: A Null for Community Detection on Weighted Networks

16. So-Young Park (NCSU)

Functional data analysis for quantile regression modeling, with application to feed intake of lactating sows

17. David Pritchard (UNC)

Composite Quantile-based Classifiers

18. Mauricio Sadinle Garcia-Ruiz (Duke and NISS)

Set-Valued Multiclass Classifiers: Lowest Ambiguity with Bounded Error Levels

19. Andrey Skripnikov (University of Florida)

Estimation of Multi-Granger Network Causal Models

20. Samuel Ventura (CMU)

PREDS: Prediction with Ensembles using Distribution Summaries

21. Kristopher Williams (University of Texas at San Antonio)

Unsupervised Outlier Detection Using Robust Locally Weighted Density Estimation

22. Zidian Xie (University of Rochester)

Building a Predictive Model for Type 2 Diabetes Using Machine Learning

23. Guan Yu (UNC)

Sparse Regression for Block-missing Multi-modality Data

24. Zheqi Zhang (UNC)

Efficient Gauss-Newton-type Algorithms for Low-Rank Matrix Optimization

25. Yi Zhao (Brown University)

Pathway Lasso: Estimate and Select Sparse Mediation Pathways with High Dimensional Mediators

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