Ashwini Maurya

C401 Wells Hall
Department of Statistics and Probability
Michigan State University
East Lansing, MI, 48824

Email: akmaurya07@gmail.com
Tel: (517) 802-7757
Web: https://www.stt.msu.edu/users/mauryaas/

EDUCATION		
	Ph.D. Statistics & Probability	*07/2011-07/2016*

Ph.D. Statistics & Probability   *07/2011-07/2016*
Department of Statistics and Probability, Michigan State University, East Lansing, Michigan, USA.
Adviser: Dr. Hira L. Koul
M.S. Statistics   *07/2006-07/2008*
Department of Statistics, University of Pune, India.
Adviser: Dr. T.V. Ramanathan
B.S. Statistics   *09/2002-07/2005*
Department of Mathematics and Statistics, Gorakhpur University, India.

CURRENT RESEARCH

1. Covariance and Inverse Covariance Matrix Estimation
Advisor: Dr. Hira Koul
Research involves estimation and developing scalable and efficient algorithm for large dimensional covariance and inverse covariance matrices.
2. Estimating Genetic Heritability for Big Data
Advisor: Dr. Gustavo De Los Campos
Research involves developing sub sampling based algorithm for estimating genetic heritability estimation in the context of big data.

PUBLICATIONS

Peer-referred journal articles

1. **Maurya, A.** A Well-Conditioned and Sparse Estimation of Covariance and Inverse Covariance Matrices using a Joint Penalty. *Journal of Machine Learning Research 2016 (accepted).*
2. **Maurya, A.** A joint Convex Penalty for Inverse Covariance Matrix Estimation. (*Journal of the Computational Statistics and Data Analysis, Volume 74, July 2014, 15-27.*)

Working papers

1. **Maurya, A.** and Y.H. Cui. Using Sparse and Well-Conditioned Estimation of Longitudinal Covariance Structure in Functional Mapping of Quantitative Trait Loci. *In progress.*
2. **Maurya, A.** and De Los Campos, G., A Bagging approach to Estimate the Genetic Heritability in Humans for Big Data. *In progress.*

HONORS & AWARDS

Pre-Doctoral Fellowship, College of Natural Science, Michigan State University Fall 2015, Summer 2016.
Graduate Research Fellowship, Department of Statistics and Probability, Michigan State University 2011.
Graduate Student Travel Award, Graduate School of Michigan State University (March, 2014 & 2015)
Conference Travel Award, American Statistical Association (International Indian Statistical Association Conference) 2014.
Conference Travel Award, University of Chicago, Midwest Statistical Symposium 2014.

Best Poster Presentation Award, Michigan State University Statistics Symposium 2014.

Pfizer Scholarship, University of Pune (2006-2008).

Second Rank Among Class of Graduating Students, among graduating class of 2005 in Gorakhur University and Its affiliated Colleges.

Award of Best Student, in Higher Secondary School for Uttar Pradesh Board, India 2002.

SOFTWARE & PACKAGES

1. JPEN (R-package) for estimating a covariance or inverse covariance matrix using joint penalty.

https://cran.r-project.org/web/packages/JPEN/index.html

INDUSTRY EXPERIENCE

Associate Consultant   May 2010-July 2011

Genpact Analytics, Bangalore, India.

Member of Marketing Advanced Analytics team. I was responsible for data pulling, predictive modeling of sales data, making reports & presentation, and providing valuable insights to the clients based on the data analysis. Among all the projects I worked on, most of the these received a rating of 5/5 in terms of timely delivery, valuable to clients, and communication of results.

TALKS & POSTERS

Department of Statistics and Probability, Michigan State University, East Lansing, MI (Passed the PhD doctoral dissertation defense, May 03, 2016.)

IBM Thomas J. Watson Research Center, Yorktown Heights, NY, March 2016

"From Industrial Statistics to Data Science", A conference in the honor of Prof. Vijay Nair's 65th Birthday, University of Michigan, October, 2015.

Joint Statistical Meeting 2015 & 2014.

International Indian Statistical Association, Riverside, CA, 2014 *(selected in top 20)*.

Midwest Statistics Symposium, University of Chicago, Chicago, IL, 2014.

Michigan State University, Graduate Academic Conference, 2013, 2014.

Statistics in Applications Symposium 2013, 2014; Michigan State University, East Lansing, MI.

WORKSHOPS & MEETINGS

Statistics in Applications Symposium 2013, 2014 Michigan State University, East Lansing

I was the key organizer for both the years. Invited more than 100 participants from University of Michigan, University of Chicago, University of Washington and several colleges across Michigan State. Got the funding from college of Natural Science at Michigan State, Center of Statistical Consulting MSU and few other local institutes. This was huge success and was appreciated by Provost and Dean at Michigan State University. The event page: https://www.stt.msu.edu/sia2014/default.aspx

PROJECTS

1. Large Scale Image Classification

The Image Net Large Scale Visual Recognition Challenge 2010 data set has more than 10^6 observations on 900 variables distributed over 150 classes.

Received the best score in terms of least classification error on test data, among all the other projects submitted in class (Course: Machine Learning CSE 847, MSU, Advisor: Dr. Rong Jin).

2. Phase Analysis of Circadian related Genes in two Tissues

We propose bivariate statistical modeling of phase expression times to better understand the joint characteristics of phase expression times of two tissues viz. heart and

liver. We also develop novel goodness of fit test for testing the appropriateness of the model.
Course: Directional Data Analysis, STT 899, MSU, Advisor: Dr. Ashis Senupta.

REFEREE Statistics and Probability letters
Annals of Statistics.

MEMBERSHIP **Student Member of–**
American Statistical Association
International Indian Statistical Association
Institute of Mathematical Statistics.

TEACHING **Independent Instructor** (Summer 2012, 2013,2014 & 2015)
Courses: STT 200, STT 315. Michigan State University.
Recitation Instructor (Fall 2011, 2012, 2013, 2014, Spring 2012, 2013, 2014, 2015)
Course: STT 200, STT 201, STT 315. Michigan State University.
Academic Assistant (April 2009-April 2010)
Course: Probability and Statistics courses for Postgraduate courses. Indian Institute of Management, Ahmedabad, India.
Teaching Instructor (August 2008- March 2009)
Course: Probability and Statistics courses for Undergraduate courses. Indian Institute of Business Management and Research, Pune, India.

SKILLS **Statistical Software**: R, Matlab, SAS, and Minitab
Data and Processing: Excel, and LaTeX
Language: C/C++, Python.
Operating System: Unix and Windows

SELECTED COURSES

Machine Learning	Stochastic Models in Finance
Statistical Genetics	Theory of Statistics
Data Mining	Regression Analysis
Time Series Analysis	Actuarial Statistics
Multivariate Analysis	Advanced Topics in Statistics
Survival Analysis	Computational Statistics
Theory of Probability	Asymptotic Theory
Advanced Algebra	Real Analysis
Random Fields and Spatial Statistics	Convergence of Measures and Stochastic Processes

OTHER COURSES **Coursera**
Machine Learning, Instructor: Andrew Ng, Stanford University
Practical Machine Learning, Instructor: Jeff Leak, Roger Peng, Brian Caffo, John Hopkins University
Python for Everybody, Instructor: Charles Severance, University of Michigan
Strategic Career Self-Management, by State University of New York

REFERENCES

Dr. Hira Koul
Professor
Department of Statistics and Probability
Michigan State University
619 Red Cedar Road, Rm C435, East Lansing, MI, 48824
Email: koul@stt.msu.edu
Phone: (517) 353-7170

Dr. V. Mandrekar
Professor
Department of Statistics and Probability
Michigan State University
619 Red Cedar Road, Rm C436, East Lansing, MI, 48824
Email: atmah@stt.msu.edu
Phone: (517) 353-7172

Dr. Mark A. Iwen
Assistant Professor
Department of Mathematics
Michigan State University
C342 Wells hall,
East Lansing, MI 48824
Email: markiwen@math.msu.edu
Phone: (517) 353-6880

Dr. Hyokyoung Hong
Assistant Professor
Department of Statistics and Probability
Michigan State University
C435 Wells Hall, Red Cedar Rd
East Lansing, MI 48823
Email: hhong@stt.msu.edu
Phone: (517) 432-1485