

SAMRACHANA ADHIKARI

Division of Biostatistics
Department of Population Health
NYU Langone Health
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CURRICULUM VITAE

POSITION

Assistant professor (Biostatistics) August 2018 -
Department of Population Health
New York University School of Medicine

POSTDOCTORAL TRAINING

Postdoctoral research fellow in Statistics September 2016 - July 2018
Department of Health Care Policy, Harvard Medical School
Department of Biostatistics, Harvard T.H. Chan School of Public Health
Mentor: Sharon-Lise Normand
Description: Bayesian methods for comparative effectiveness research

EDUCATION

PhD, Statistics August 2016
Master of Science, Statistics May 2012
Carnegie Mellon University (CMU), Pittsburgh, PA
Thesis: **State Space Modeling Approach for Temporal Networks**
Advisor: Brian Junker, Department of Statistics
Committee: Steve Fienberg, Cosma Shalizi, Tracy Sweet, Andrew Thomas

Bachelor of Arts, Mathematics and Economics May 2011
Summa Cum Laude in Statistics
Mount Holyoke College, South Hadley, MA
Thesis: **A Modeling Approach to Analyze Epileptic Brain Data Using Uni-variate and Multivariate Dynamic Linear Models**
Advisor: Michael Lavine, Department of Mathematics and Statistics, UMASS, Amherst

AWARDS

AIS SIGHealth Best Paper Award 2016
Mihaela Serban Memorial Travel Award, CMU 2015
Data Science for Social Good Fellow, University of Chicago 2013
Phi Beta Kappa, Mount Holyoke College 2011
Statistics Department Award, Mount Holyoke College 2011
Paul F. Mcquire Bequest Fund, Mount Holyoke College 2009
– fellowship to accomplish the internship at MannDeshi Microfinance (refer to professional experience section)

PEER REVIEWED
PUBLICATIONS

- S. Adhikari**, J. T. Becker, B. W. Junker, F. Lecci, O. L. Lopez, and R. J. Tibshirani (2019). “High-dimensional longitudinal classification with multinomial fused lasso”. In press. *Statistics in Medicine*. (arXiv:1501.07518.)
- J. P. Spillane, M. Shirrell, & **S. Adhikari** (2018). “Constructing ‘experts’ among peers: Test data, educational infrastructure, and teachers’ interactions about teaching.” *Educational Evaluation and Policy Analysis*.
- S. Adhikari** and B. Dabbs (2017). “Social network analysis in R: A software review”. *Journal of Education and Behavioral Statistics*.
- S. Somanchi, **S. Adhikari**, A. Lin, E. Eneva, R. Ghani (2015). “Early prediction of cardiac arrest (code blue) using electronic medical records”. *KDD ’15 Proceedings of the 21th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, pages 2119–2126. New York, NY, USA.
Winner of the AIS SIGHealth 2016 Best Paper Award Competition

Submitted and pre-prints

- S. Adhikari**, S. Rose and S-L. T. Normand (2018+). “Non-parametric Bayesian instrumental variable method with heterogenous treatment effects”. [Revise and resubmit]
- S. Adhikari** and B. W. Junker (2018+). “Analysis of longitudinal advice seeking networks of teachers using longitudinal latent space network model with covariates”. [Under revision]
- T. Sweet, **S. Adhikari** (2018+). “A latent space model for network influence”. [Revision under review]
- J. V. Spertus, **S. Adhikari** and S-L. T. Normand (2018+). “Regularization and hierarchical prior distributions for adjustment in health care claims data: rethinking comorbidity score”. [Revision under review]

SOFTWARE &
CODE

R packages - publicly available at CRAN

- Primary author and maintainer of “HLSM: Hierarchical Latent Space Network Model”
≈ 10,400 downloads as of August, 2017.
- Co-author of “CIDnetworks”
≈ 11,200 downloads as of August, 2017.

INVITED TALKS

- “Non-parametric Bayesian Instrumental Variable Method with Heterogenous Treatment Effects”. Invited talk at the Division of Biostatistics, Department of Population Health, NYU School of Medicine, NY. 29 November 2017.
- “Causal Inference in Observational Data with Unmeasured Confounding”. Invited talk at the Department of Statistics and Actuarial Science, University of Waterloo, Canada. 15 November 2017.
- “Post PhD Academic Life”. Invited talk at the Women in Statistics Group seminar series, Department of Statistics and Data Science, CMU, Pittsburgh, PA. 30 October 2017.
- “Longitudinal Latent Space Network Model with VAR Evolution”. Speaker at the invited session in Social Science Section, Joint Statistical Meeting, 2016. Chicago, IL. 30 July - 4 August 2016.
- “Longitudinal Latent Space Network Model with Application in Education”. Invited talk at the MoRRE research group meeting, Department of Educational Psychology Quantitative Methods Program, University of Texas, Austin, TX. 29 October 2015.
- “Statistical Analysis of Real-World Network”. Invited talk at the MHC Math and Stat club, Department of Mathematics, Mount Holyoke College, South Hadley, MA. 15 October 2014.

CONFERENCES &
WORKSHOPS

- “Latent Space Models for Longitudinal Networks”. Talk at the Methods and Models for Your Social Network Data Symposium. AERA 2018. New York, NY 15 April 2018.
- “Non-parametric Bayesian Instrumental Variable Analysis”. Talk at the International Conference on Health Policy Statistics. Charleston, SC. 12 January 2017.
- “Non-parametric Bayesian Instrumental Variable Analysis”. Poster at the Joint Statistical Meeting. Baltimore, MD. 1 August 2017.
- “Non-parametric Bayesian Instrumental Variable Analysis”. Poster at the 9th EMR-Italian Region International Biometric Society Conference. Thessaloniki, Greece. 10 May 2017.
- “Causal Mediation Analysis with Network as a Mediator”. Talk at the Network Meeting Group in the Department of Statistics, Carnegie Mellon University, Pittsburgh, PA. 18 March 2016.
- “A Statistical Method to Analyze Evolution of Longitudinal Networks in Education”. Talk at the Research Methods Symposium, SREE 2016. Washington D.C. 2 - 4 March 2016.
- “Latent Space Modeling Approach for Temporal Networks”. Poster at Joint Statistical Meeting 2015. Seattle, WA. 11 August 2015.
- “Social Networks Models in Education Research”. Co-taught at Professional Development and Training Courses Workshop, AERA 2015. Chicago, IL. 16 - 20 April 2015.
- “Longitudinal Latent Space Network Model”. Talk at the Quantitative Methods for the Analysis of Social Network Data in Education Symposium, AERA 2015. Chicago. 16 - 20 April 2015.
- “Modeling Social Networks in Education Research Workshop”. Co-organized and led training sessions in the Social Network Analysis Workshop at the Virginia Education Science Training Program, University of Virginia, VA. 23 - 24 June 2014.
- “Fused lasso to Determine the Risk Factors for Dementia”. Poster at Joint Statistical Meeting 2013. Montreal, Canada. 5 August 2013.

TEACHING
TRAINING

Fellow at Institute for Teaching Excellence 27-29 June 2017
Simmons College, Boston, MA

- Learning and pedagogical theory for teaching undergraduates in STEM

TEACHING
EXPERIENCE

Guest lecturer 2 December 2017
Department of Epidemiology, Harvard T.H. Chan School of Public Health

- Assessment Concepts and Methods In Psychiatric Epidemiology/ EPI219, Dr. Deborah Blacker

Guest co-lecturer 16 November 2016
Department of Counseling, Educational Psychology and Special Education, Michigan State University, MI

- Introduction to the Models, Clustering and Graphical Representations for Social Network Analysis: Social Networks Seminar/ CEP991B, Prof. Ken Frank

Associate instructor and head teaching assistant January 2013 - May 2014
Department of Statistics, CMU

- Probability theory and random processes
- Statistical reasoning and practice

Teaching assistant August 2011 - December 2012
Department of Statistics, CMU

- Probability theory and random processes
- Statistical reasoning and practice

PROFESSIONAL
SERVICE AND
MEMBERSHIP

Professional service

- Program chair-elect: American Statistical Association (ASA) Biometrics Chapter 2019
Organizing committee: First Nepal Winter-school in AI, Kathmandu, Nepal 2018

Member

- ASA
American Education Research Association
NepAI Applied Mathematics and Informatics Institute for Research

Adhoc reviewer

- Journal of Education and Behavioral Statistics, Journal of Causal Inference

PROFESSIONAL EXPERIENCE

Statistical consultant/ Data scientist **April 2013 - May 2014** **EEME analytics, Pittsburgh, PA**

Provided statistical advice on design and implementation of the initial analysis on large scale time series data of household energy consumption to make energy efficient recommendation

Summer fellow **June - August 2013** **Data Science for Social Good Fellowship**

Developed tools to predict cardiac arrest using electronic medical record data at the NorthShore University Health System

Research Experience of Undergraduate participant **Summer 2010** **NIMBioS, University of Tennessee, Knoxville, TN**

Used statistical models to predict bio-diversity in the Smoky Mountains National Park

Advisors: Paul R. Armsworth & William Godsoe

Impact assessment intern **June - August 2009** **MannDeshi Microfinance, Mhaswad, Maharastra, India**

Assessed impact of the bank on the financial status of the local women using econometric tools

SKILLS

Programming & data analysis: R, C++, MATLAB; Basics of Python

Typesetting: L^AT_EX & Sweave

Languages: English (native), Nepali (native), Hindi (fluent)

OTHER ACTIVITIES

Volunteer tutor **January 2013 - August 2016**

Nepali language tutor in the Pittsburgh area

English as a Second Language tutor to Bhutanese refugees in the Pittsburgh area

Stage crew and event manager **August 2009 - May 2011** **Student Programs, Mount Holyoke College**

Provided audio and visual support for campus events

NATIONALITY

Nepali

REFERENCES

Available upon request