Anupreet Porwal

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Education

University of Washington, Seattle, Washington

(2018-present)

Ph.D. Student, Department of Statistics

- Current Research Topic: Bayesian Models for Sparsity
- Advisor: Prof. Adrian Raftery, Prof. Abel Rodriguez

Indian Institute of Technology Kanpur (IIT K), India

(2012-17)

B.S. – M.S. Dual Degree, Mathematics and Scientific Computing

Bachelor's GPA: 9.1/10.0; Master's GPA: 10.0/10.0

DEPARTMENT RANK: 1 (out of 55 students)

Research Interests

Bayesian Model selection, Bayesian models for Sparsity

Probabilistic Machine Learning, Bayesian Statistics

Statistical Modelling Techniques: Regression Analysis, Time Series Analysis

Publications

Porwal, Anupreet, Sharmishtha Mitra, and Amit Mitra. "Order estimation of 2-dimensional complex superimposed exponential signal model using exponentially embedded family (EEF) rule: large sample consistency properties." *Multidimensional Systems and Signal Processing* 30, no. 3 (2019): 1293-1308. [Report | Presentation | Code]

Arora, Gundeep, **Anupreet Porwal**, Kanupriya Agarwal, Avani Samdariya, and Piyush Rai. "Small-variance asymptotics for nonparametric Bayesian overlapping stochastic blockmodels." In *IJCAI* (2018). [Report | Presentation | Code]

Mitra, Sharmishtha, and **Anupreet Porwal**. "Order Estimation of Superimposed Nonlinear Complex Cisoid Model Using Adaptively Penalizing Likelihood Rule: Consistency Results." *DEStech Transactions on Engineering and Technology Research, AMMA* (2017). [Paper | Presentation | Code]

Working Papers

Porwal, Anupreet, Adrian E. Raftery. Bayesian Model Averaging vs. Penalized Likelihood approaches to Variable selection: Extensive Comparsion on real datasets". (In Progress, Intended for Proceedings of the National Academy of Sciences (PNAS), Research Article)

Porwal, Anupreet, Abel Rodriguez. "Laplace Power-Expected-Posterior priors for Logistic Models".

Scholastic Achievements

- Boeing International Fellow Winter 2021
- Coursera Department Fellowship 2018: outstanding promise for graduate work at UW Seattle.
- B.D.Sanghi Gold Medal 2017: Best academic performance in Department of Mathematics and Statistics at IIT Kanpur
- Prof. Burton J. Moyer Gold Medal: Best graduating Master's student among all the Natural Sciences department in 2017 (IIT K).
- Proficiency Medal 2017: Best graduate project work in Dept. of Mathematics and Statistics (IITK)
- Academic Excellence Awardee (top 10% of 830 students) for exemplary academic performance in consecutive academic years 2014-15 and 2015-16.
- Inspire and Masters T.A. Scholarship: Conferred by Dept. of Science and Technology, Govt. of India.
- Recipient of Kishore Vaigyanik Protsahan Yojana (KVPY) fellowship award, 2012 given to top 1% among 40,000 applicants by Department of Science and Technology (DST), Government of India.

Professional Experience

Analyst, North American Liability Strategies, Deutsche Bank, Mumbai (Summer'17-Present)

- Conducted statistical tests on non-financial non-utilities members of S&P 1500 index to **determine** rating metrics that drive credit ratings for different industries.
- Established that **Overrated companies suffer** in their valuation by regressing EV/LTM EBITDA as a function of difference in true rating and predicted rating from ratings drivers model.

Summer Intern, EMEA Industrials, Deutsche Bank, Mumbai

(Summer'16)

• Proposed transformative acquisition of a leading Swedish sports equipment producer by the largest RV equipment producer of the world and conceptualized financial and strategic rationale with better financial outlook for the combined entity.

Summer Analyst, Pervazive Automation Solutions Pvt. Ltd., Bengaluru

(Summer'15)

- Pervazive is India's top emerging machine intelligence company for networks.
- Devised automated learning algorithm using decision trees based on network health statistics to semantically classify machine generated network errors.
- Designed a system to identify the valuable customers facing network congestion.

Research & Teaching Experience

University of Washington, Seattle, WA

Graduate Research Assistant

- Supervisor: Prof. Adrian E. Raftery; Developing empirical framework to compare various variable selection techniques on 15 real life datasets (Spring'20, Winter'21)
- Supervisor: Prof. Abel Rodriguez; Developing Laplace Power-Expected-Posterior priors approach for logistic models (Spring'21)

Teaching assistant

• STAT 341: Introduction To Probability And Mathematical Statistics II

(Winter'20) (Autumn'19)

(Summer'20)

• STAT/CSSS 536: Analysis of Categorical and Count data

• STAT311: Elements of Statistical Methods

(Summer'19, Winter'19)

• STAT220: Statistical Reasoning

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• STAT 509/ ECON 580: Econometrics I - Introduction to Mathematical Statistics (Autumn'18,20)

Indian Institute of Technology, Kanpur, India

• Teaching Assistant, Statistical Inference

(Spring'17)

• Senior Academic Mentor, Counselling Service

(2014-15)

Relevant Coursework

Statistics and Machine Leaning:

- Regression Analysis
- Time Series Analysis
- Bayesian Data analysis
- Probability and Statistics
- Statistical Inference
- Non-Linear Regression
- Prob. Machine learning
- Bayesian Machine learning
- Learning with Kernels
- Statistical Data Mining
- Robust Statistical Methods
- Applied Stochastic Processes

Other Relevant Courses:

- Real & Complex Analysis
- Matrix theory & Linear Est.
- Intro. to Programming
- Data Structures & Algo.
- Convex Optimization
- Mathematical Modelling

Technical Skills

Advanced: R, Octave, MATLAB, Microsoft Office, IATEX Basic: C, C++, Python, MySQL, HTML5, SAS

Service

- UW Statistics Department Diversity, Inclusion, Community & Equity Committee
- Statistics Undergraduate Directed Reading Program, UW Seattle [SPA-DRP] (Winter'20)
- Student Undergraduate Committee Student Nominee, IIT Kanpur (2016-17)
 - Nominated by student senate to represent the undergraduate student community in determination, coordination and review of general policies for the institute.

• Department Undergraduate Committee Student Nominee

(2014-15)

- Elected to represent the interests of 150 undergraduate students in academic and general affairs.
- Involved in decision making matters like course restructuring, template changes and student appeals.