Jean Feng

Education

- Sept 2015- PhD, Biostatistics, University of Washington, Seattle, CA.
- June 2020 Advisors: Noah Simon, Frederick Albert Matsen IV
- 2012–2013 MS, Computer Science, Stanford University, Stanford, CA.
- 2009–2013 BS, Computer Science, Stanford University, Stanford, CA.
- 2005–2009 Monta Vista High School, Cupertino, CA

Presentations

Contributed Oral Presentations

2019 Uncertainty-Aware Black-Box Predictors with Coverage Guarantees, Joint Statistical Meetings

Invited Oral Presentations and Seminars

- 2020 Training Procedures and Regulatory Policies for Safe Machine Learning Models in Healthcare, University of California, San Francisco
- 2020 Training Procedures and Regulatory Policies for Safe Machine Learning Models in Healthcare, The University of Texas, MD Anderson Cancer Center
- 2020 Training Procedures and Regulatory Policies for Safe Machine Learning Models in Healthcare, University of California, Irvine
- 2020 Approval policies for modifications to Machine Learning-Based Software as a Medical Device: A study of Bio-creep, International Conference on Health Policy Statistics
- 2019 Sparse-Input Neural Networks for High-dimensional Nonparametric Regression and Classification, Western North American Region (WNAR) Annual Meeting
- 2018 Sparse-Input Neural Networks for High-dimensional Nonparametric Regression and Classification, University of Washington Biostatistics Colloquium
- 2018 Sparse-Input Neural Networks for High-dimensional Nonparametric Regression and Classification, Joint Statistical Meetings
- 2017 Sparse-Input Neural Networks for High-dimensional Nonparametric Regression, ICML Workshop on Principled Approaches to Deep Learning
- 2011 Haptic Belt with Pedestrian Detection, Neural Information Processing Systems

Awards

2020 International Conference on Health Policy Statistics, Student Travel Award For manuscript: Approval policies for modifications to Machine Learning-Based Software as a Medical Device

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- 2018 Joint Statistical Meetings Section on Statistical Learning and Data Science, Student Paper Award For manuscript: Sparse-input neural networks for high-dimensional nonparametric regression and classification
- 2018 University of Washington Biostatistics Donovan J. Thompson Award for Best Combined Performance on Ph.D. Theory and Applied Qualifying Examinations
- 2015–2017 Big Data for Genomics and Neuroscience Training Grant

Publications

- 2020 Brian Williamson and Jean Feng. A unified approach for assessing population feature importance using shapley values. (*Submitted*).
- 2020 Jean Feng and Noah Simon. An analysis of the cost of hyper-parameter selection via split-sample validation, with applications to penalized regression. *Statistica Sinica*, 2020.
- 2019 Jean Feng, Arjun Sondhi, Jessica Perry, and Noah Simon. Selective predictionset models with coverage guarantees. *arXiv*, 2019, (*Under revision at Journal of Computational and Graphical Statistics*).
- 2019 Jean Feng and Noah Simon. Sparse-Input neural networks for high-dimensional nonparametric regression and classification. *arXiv*, 2019.
- 2019 Jean Feng, David A Shaw, Vladimir N Minin, Noah Simon, and Frederick A Matsen, IV. Survival analysis of DNA mutation motifs with penalized proportional hazards. Ann. Appl. Stat., 2019.
- 2019 Jean Feng, Scott Emerson, and Noah Simon. Approval policies for modifications to machine learning-based software as a medical device: A study of bio-creep. (Under revision at Biometrics).
- 2019 Jean Feng, William S DeWitt, Aaron McKenna, Noah Simon, Amy Willis, and Frederick A Matsen. Estimation of cell lineage trees by maximum-likelihood phylogenetics. *bioRxiv*, 2019, (*Under revision at Annals of Applied Statistics*).
- 2019 Kristian Davidsen, Branden J Olson, William S DeWitt, 3rd, Jean Feng, Elias Harkins, Philip Bradley, and Frederick A Matsen, 4th. Deep generative models for T cell receptor protein sequences. *Elife*, 2019.
- 2018 Jean Feng, Brian Williamson, Noah Simon, and Marco Carone. Nonparametric variable importance using an augmented neural network with multi-task learning. *ICML*, 2018.
- 2018 Jean Feng and Noah Simon. Gradient-based regularization parameter selection for problems with nonsmooth penalty functions. J. Comput. Graph. Stat., 2018.

Software

- GapML Python package for analyzing cell-lineage tracing data from GESTALT https://github.com/matsengrp/gestaltamania
- SPINN Python package for estimating sparse-input neural networks http://github.com/jjfeng/spinn

□ +1 (408) 891 3268 • ☑ jeanfeng@uw.edu • ♀ jjfeng Last updated March 4, 2020 samm Python package for estimating somatic hypermutation rates of nucleotide motifs
http://github.com/matsengrp/samm

Work Experience

- 2019 **Research Intern**, *Insitro*, South San Francisco, CA. Developed statistical models of genomic data.
- 2012–2015 **Software engineer**, *Coursera*, Mountain View, CA. Built the professional certificate program and payment system. Technical lead on projects with 3-5 people. Mentored interns and junior engineers.

Teaching

- 2018 Teaching Assistant, Biostat 524: Design of Medical Studies, University of Washington
- 2017 Guest lecture, Biostat 561: Computational Skills for Biostatistics I, University of Washington
- 2016–2017 Teaching Assistant, Unsupervised Methods for Statistical Machine Learning, University of Washington Summer Institute in Statistics for Big Data
 - 2016 Teaching Assistant, Supervised Methods for Statistical Machine Learning, University of Washington Summer Institute in Statistics for Big Data
 - 2011 Section Leader, CS106A: Programming Methodology, Stanford University

Service

Referee Service

- o International Conference on Machine Learning
- o Journal of Computational and Graphical Statistics
- Annals of Statistics
- o Statistics in Medicine

Session Chair

- Joint Statistical Meetings
- o Western North American Region (WNAR) Annual Meeting

University Service

- o Student, Faculty, Staff Committee, 2016–2019
- Department Slack manager 2016–2020
- o Graduate Program Advising Advisory Group 2020