Yi Liu

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Education

University of Chicago
Chicago, IL, USA

PH.D IN STATISTICS (GPA:3.94) *Oct. 2017 - PRESENT*

- Advisors: Veronika Ročková & John Reinitz
- Research Interest: Bayesian Statistics, Stochastic Simulations, Deep Learning on Genetics, Uncertainty Quantification, System Biology
- Relevant Courses: Deep Learning, Fundamental of Computational Biology, An Introduction to the Theory of Machine Learning

Stanford University
Palo Alto, CA, USA

MS IN STATISTICS(GPA:4.00) *Oct. 2015 - Jun. 2017*

- Relevant Courses: Statistical Inference, Machine Learning, Data Mining and Analysis, Probabilistic Graphical Model, Empirical Bayesian Methods, Modern Applied Statistics and Machine Learning (I & II), Applied Statistics, Probability Theory

Imperial College London
London, England, UK

B.S. IN MATHEMATICS AND STATISTICS FOR FINANCE (FIRST CLASS HONORS) *Oct. 2012 - Aug. 2015*

- Top performance in Statistics
- Awarded LBG Prize for top performance in Statistics, First Year Project Prize best first year project
- Relevant Courses: Statistical Modelling; Applied Probability; Games, Risks and Decisions; Time Series; Credit Scoring; Statistical Pattern Recognition; Scientific Computation (in C)

Publications

Liu Y, Barr K, Reinitz J. **Fully Interpretable Deep Learning Model of Transcriptional Control[J].** Submitted bioRxiv (2019) Link

Liu Y, Ročková V, Wang Y. **ABC variable selection with Bayesian forests[J]** Submitted arXiv:1806.02304 (2018) Link

Javangula, P., Modarre, K., Shenoy, P., Liu, Y., Nayebi, A **Efficient Hybrid Algorithms for Computing Clusters Overlap[J]** Procedia Computer Science, (2017) Link

Modarresi, K., Radu, I., Menguy, C., Muthiyil, J. V., Liu, Y., Qiang, S., Nayebi, A. **Segment Extension Based on Lookalike Selection[P]** U.S. Patent Application 15/700,343 (2019) Link

Modarresi K, Liu Y, Shenoy P P, et al. **User Data Overlap Determination in a Digital Medium Environment[P]** U.S. Patent Application 15/610,033 (2018) Link

Liu Y, Veturi K K, Modarresi K **Security Breach Detection in a Digital Medium Environment[P]** U.S. Patent Application 15/406,494 (2018) Link

Research Projects

Deep Learning for System Biology
University of Chicago

WORKING UNDER SUPERVISION OF PROFESSOR JOHN REINITZ *Jan. 2018 - PRESENT*

- Mathematically proving that Thermodynamic Models are Deep Neural Networks to derive a DNN that is full interpretable
- Develop and implement of specific form of Convolutional and Recurrent Neural Network in Tensorflow and Keras

ABC Methods for Non-parametric Variable Selections
University of Chicago

WORKING UNDER SUPERVISION OF PROFESSOR VERONIKA ROČKOVÁ *Oct. 2017 - PRESENT*

- Design and implement variable selection algorithm using Approximate Bayesian Computation algorithms with application on BART
- Design and implement variable selection with Thompson Sampling algorithms with application on BART

Rational infectious disease surveillance through a Bayesian value of information modeling framework
Stanford University

WORKING UNDER SUPERVISION OF PROFESSOR JASON ANDREWS *June. 2016 - PRESENT*

- Design Novel framework for using prior data to inform efficient targeting of health interventions against infectious diseases
- Creating a new Bayesian framework to evaluate choices and cost of treatment
- Advice treatment and sampling methods in West Africa

Industry Experience

Wayfair
Boston ,MA , USA

PH.D. DATA SCIENCE INTERN *Jun. 2019 - Sep. 2019*

Adobe Inc *San Jose,CA, USA*

Data Science Intern *Jun. 2016 - Sep. 2016*

- Design efficient algorithms for security breach detection through user behavior
- Design algorithms for efficiently counting the number of elements in the intersection of multiple sets
- Using Empirical Bayesian Methods to detect differentiating features between different market segments

Royal Bank of Scotland *London, England, UK*

Coporate Banking Intern *Jun. 2014 - Sep. 2014*

- Draft contracts for asset finance deal up to one million pound
- Design a standard operating procedure to keep clients informed throughout the documentation process

Extracurricular Activity

Imperial College Speakers (Toastmaster) *London, England, UK*

Vice-President of Public Relations *Mar. 2013 - Jun. 2015*

- Mentor Phd Students for their technical presentation
- Division Finalist of Toastmasters International Speech Contest in London
- Write monthly Club newsletters

Skills

Programming	Python, C, R, Matlab, LaTeX
Data Mining	R ggplot2, R data.table, Python Pandas, Python Numpy, Python Matplotlib, SQL, Hadoop Hive, Hadoop Hue
Machine Learning	Tensorflow, Keras, Scipy
Languages	English, Chinese