

## Qi (Rose) Yu

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RESEARCH INTERESTS      Machine learning, Spatiotemporal decision making, Tensor methods, and their applications.

EDUCATION      **Caltech**, Pasadena, California, USA  
*Department of Computing and Mathematical Sciences*  
Postdoctoral researcher, Aug 2017-present)

- Advisors: Yisong Yue, Anima Anandkumar

**University of Southern California**, Los Angeles, California, USA  
*Department of Computer Science*  
Ph.D., Computer Science, Aug 2012-Aug 2017

- Advisors: Yan Liu, Cyrus Shahabi

**Stanford University**, Stanford, California, USA  
*Computer Science Department*  
Visiting Student Researcher, Aug 2016-Oct 2016

- Host: Christopher Ré

**Zhejiang University**, Hangzhou, Zhejiang, PRC  
*Chu Kochen Honors College*  
B.S in Computer Science and Technology, June 2008. GPA 3.88/4.0

- Advisor: Zhihua Zhang

**University of California, Davis**, Davis, California, USA  
Cultural Exchange Student, Jan 2010-Feb 2010

PREPRINTS      Yaguang Li, **Rose Yu**, Cyrus Shahabi, Yan Liu "Graph Convolutional Recurrent Neural Network: Data-Driven Traffic Forecasting", Preprint *arXiv:1707.01926*

Paroma Varma, Bryan He, Dan Iter, Peng Xu, **Rose Yu**, Christopher De Sa, Christopher Ré, "Socratic Learning", Preprint *arXiv:1610.08123*

CONFERENCE PUBLICATIONS      **Rose Yu\***, Yaguang Li\*, Ugur Demiryurek, Cyrus Shahabi, Yan Liu. "Deep Learning: A Generic Approach for Extreme Condition Traffic Forecasting." To Appear *Proceedings of the Seventeenth SIAM International Conference on Data Mining (SDM)*, 2017

**Rose Yu**, Yan Liu. "Learning from Multiway Data: Simple and Efficient Tensor Regression." In *Proceedings of the 33th International Conference on Machine Learning (ICML)*, 2016

Dingxiong Deng, Cyrus Shahabi, Ugur Demiryurek, Linhong Zhu, **Rose Yu**, Yan Liu, "Latent Space Model for Road Networks to Predict Time-Varying Traffic", In *Proceeding of ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 2016

**Rose Yu**, Andrew Gelfand, Suju Rajan, Cyrus Shahabi, Yan Liu. "Geographic Segmentation via

Latent Poisson Factor Model.” in *ACM International Conference on Web Search and Data Mining (WSDM)*, 2016

**Rose Yu**, Dehua Cheng, Yan Liu. ”Accelerated Online Low Rank Tensor Learning for Multivariate Spatiotemporal Streams.” In *Proceedings of the 32th International Conference on Machine Learning (ICML)*, 2015

**Rose Yu\***, Mohammad Taha Bahadori\*, Yan Liu. ”Fast Multivariate Spatio-temporal Analysis via Low Rank Tensor Learning.” In *Proceeding of Advances in Neural Information Processing Systems (NIPS)*, 2014 **Spotlight**

**Rose Yu**, Xinran He, Yan Liu. ”GLAD: Group Anomaly Detection in Social Media Analysis.” In *Proceeding of ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 2014

Cuixia Gao, Naiyan Wang, **Qi Yu**, Zhihua Zhang. ”A Feasible Nonconvex Relaxation Approach to Feature Selection.” In *Proceeding of 24th AAAI conference on Artificial Intelligence (AAAI)*, 2011

**Qi Yu**, Zhihao Ding, Rong Rong, Wang Donghui, Zhengyue Zhang. ”Dark Pixel Detection: A Novel Single Image Dehaze Approach”. In *Proceeding of 27th Image and Vision Computing New Zealand (IVCNZ)*, 2011

JOURNAL  
PUBLICATIONS

**Rose Yu**, Yan Liu. ”Spatio-Temporal Analysis of Social Media Data” In *Encyclopedia of GIS*, 2016

**Rose Yu**, Huida Qiu, Zhen Wen, Ching-Yung Liu, Yan Liu. ”A Survey on Social Media Analysis Anomaly Detection” In *ACM KDD Exploration*, 2016

**Rose Yu**, Xinran He, Yan Liu. ”GLAD: Group Anomaly Detection in Social Media Analysis - Extended Abstract.” In *ACM Transactions on Knowledge Discovery in Data (TKDD)*, 2015

WORKSHOPS  
PUBLICATIONS

**Rose Yu**, Stephan Zheng. Poster accepted to *International Conference on Machine Learning (ICML)*, Deep structured prediction workshop, 2017

**Rose Yu\***, Paroma Varma\*, Dan Iter, Chris De Sa, Christopher Re, ”Socratic Learning”. Poster accepted to *Advances in Neural Information Processing Systems (NIPS)* future of interactive machine learning workshop, 2016

**Rose Yu**, Yaguang Li, Cyrus Shahabi, Ugur Demiryurek, Yan Liu. ”Extreme Traffic Forecasting: A Deep Learning Approach.” Poster accepted to *ACM SIGKDD Conference on Knowledge Discovery and Data Mining(KDD)* workshop on Mining and Learning from Time Series , 2016

**Rose Yu**, Yan Liu. ”Simple and Efficient Tensor Regression for Spatio-Temporal Forecasting.” Poster accepted to *International Workshop on Climate Informatics workshop(CI)*, 2016

**Rose Yu**, Sanjay Purushotham, Yan Liu. ”Efficient Spatio-Temporal Sampling via Tensor Sketching.” Poster accepted to *Advances in Neural Information Processing Systems (NIPS)* time series workshop, 2015

**Rose Yu**, Dehua Cheng, Yan Liu. ”Accelerated Online Low-Rank Tensor Learning for Multi-model Ensemble.” Poster accepted to *International Workshop on Climate Informatics workshop (CI)*, 2015

Mohammad Taha Bahadori, **Rose Yu**, Yan Liu. ”Fast Cokriging via Low Rank Tensor Learning.” Poster accepted to *International Workshop on Climate Informatics workshop (CI)*, 2014

**Rose Yu**, Xinran He, Yan Liu. "Dynamic Social Network Group Anomaly Detection Using Hierarchical Bayesian Model." Poster accepted to *Women in Machine Learning (WiML)*, 2013

SELECTED AWARDS AND HONORS **SIGKDD Scholarship**: ACM 50th Celebration of the Turing Award, San Francisco, 2017

**Selected participant in Rising Stars in EECS**: An Academic Career Workshop for Women, MIT, 2015

**Annenberg Graduate Fellowship**, University of Southern California, 2012-present

**Selected participant in Heidelberg Laureate Forum** - Abel, Fields, Turing laureates meet next generation, University of Heidelberg, 2013

**Microsoft 2011 Young Fellowship**, Microsoft Research Asia, 2011

**International Forum (iF) Design Hannover Global Concept Award**, iF, 2010

**First prize in Undergraduate Research and Innovation**, Zhejiang University, 2010

**Outstanding Undergraduate Award**, Zhejiang University, 2009, 2008.

EMPLOYMENT

**IBM Thomas J. Watson Research Center**, Yorktown Heights, New York, USA

*Research Intern* June, 2015 - August, 2015  
Work with Hongfei Li, Anshul Sheopuri in Customer Analytic team on IBM Xtify push intelligence platform. Developed deep learning models for GPS data from Xtify to predict users' click behavior and build customer profiles.

**Yahoo! Labs**, Sunnyvale, California, USA

*Research Intern* May, 2014 - August, 2014  
Work with Andrew Gelfand, Suju Rajan in Personalization team on Yahoo! Aviate location-aware app recommendation. Developed a hierarchical Bayesian model for geographical segmentation problem in App usage. Continue academic collaboration through November on "Geographic Segmentation via Latent Poisson Factor Model".

**Intel Lab**, Santa Clara, California, USA

*Research Intern* May, 2013 - August, 2013  
Work with Context-Aware Technology team of Intel Immersive Experience Research (IXR) division. Analyze smart phone usage data and propose a graphical model based algorithm to predict the potential contacts and applications on smart phones. Analyze NBC Universal movie data and fit regression models to predict future DVD/CD sales.

**Microsoft R&D**, Minghang, Shanghai, USA

*Program Manager Intern* June, 2011 - June, 2012  
Work with Commerce team in Microsofts Server & Tools Business. Build SDK Wiki for Commerce platform partners. Design API prototype for guest purchase without Window Live ID authentication feature. Adapt platform working flow of payment instruments risk check and fraud detection for Microsoft Office 360 and Azure.

TEACHING

**Machine Learning (CSCI 567)** Spring 2016  
Guest lecturer : taught Gaussian mixture models and EM algorithm.

**Advanced Big Data Analytics (CSCI 686)** Fall 2015

Teaching assistant: Led weekly section; redesigned assignments and mini-project on topic modeling to reflect developments in big data analysis.

INVITED TALK	Department of Computing and Mathematically Sciences, California Institute of Technology	Oct 6 , 2017
	Center of Data Science, New York University	March 30, 2017
	Department of Computer Science, Brown University	March 13, 2017
	School of Industrial and Systems Engineering, Georgia Institute of Technology	March 6, 2017
	College of Computer and Information Science, Northeastern University	March 3, 2017
	AI with The Best, Online Conference	Sep 17, 2016
	Computer Science Department, Stanford University	May 23, 2016
	Department of Electrical & Computer Engineering, Northeastern University	Nov 12, 2015

ACADEMIC SERVICE	Reviewer, Transactions on Knowledge Discovery from Data (TKDD), 2017	
	Proceedings Chair, ACM International Conference on Web Search and Data Mining (WSDM) 2018	
	Reviewer, Journal of Machine Learning Research (JMLR) 2017	
	Program Committee, ACM International Conference on Information and Knowledge Management (CIKM) 2017	
	Reviewer, IEEE Transactions on Knowledge and Data Engineering (TKDE) 2016	
	Program Committee, NIPS 2016 Time Series Workshop	
	Co-organizer, NIPS workshop on Learning with Tensors: Why Now and How? (Tensor-Learn), 2016	
	Co-organizer, Woman in Machine Learning Workshop (WiML), 2016	
	Co-organizer, USC PhD Woman in Computer Science group, Los Angeles, 2013	
	Student Local Chair, ACM Conference on Computer Supported Cooperative Work (CSCW), Hangzhou, 2011	
	Organizer, Probabilistic Intelligence Lab Machine Learning Seminar, Hangzhou, 2010	
	President, Chu KoChen Honors College Excellent Student League, Hangzhou, 2009	