YY (Yuanyang) Zhang

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Education

- **University of California, Santa Barbara** **Santa Barbara, CA**
  Ph.D. Computer Science *2010 – present*
  Advisor: Prof. Linda Petzold
  Research Interests: Machine Learning, Data Mining, Statistics and Bioinformatics.
- **Beihang University** **Beijing, China**
  B.S. Electrical and Computer Engineering *2006 – 2010*

Research Projects

- **Mortality prediction in trauma clinical data using survival analysis** *Oct. 2014 – present*
  - Applied log-rank test, Cox model with stepwise selection and Cox model with elastic net regularization to our clinical trauma patients data.
  - Designed a cure model to make predictions of the mortality of trauma patients by using their static data.
- **Blood states identification in trauma clinical data using hidden Markov model** *Mar. 2014 – Oct. 2014*
  - Applied the hidden Markov model to identify the blood states in trauma patients by using their temporal data.
  - Studied the relationships between the blood states with Coagulation, multiple organ failure and interventions.
- **Data-driven mortality prediction for trauma patients** *Sep. 2013 – Feb. 2014*
  - Designed a regularized logistic regression model which can deal with a mixture of static and temporal data and a large number of missing values.
  - Applied the method to predict the mortality of trauma patients using their clinical data.
- **Gene/probe set enrichment analysis on PTSD data** *Mar. 2013 – Sep. 2014*
  - Modified the gene set enrichment analysis algorithm and applied on PTSD gene expression, methylation and mRNA data to obtain a list of significant GO terms and pathways.
- **Linear model to identify the impact of interventions to measurements** *July 2012 – Feb. 2013*
  - Applied linear model to identify the impact of each intervention, such as red blood cells and plasma, to the measurements, such as protein C and pH value, by using trauma clinical data.
- **Analysis of partition in scale-free network** *Mar. 2011 – Sep. 2011*
  - Derived the lower and upper bound of the expectation of cut when partitioning a scale-free graph into two parts, by using the preferential attachment model.
- **Accurate outdoor access point location using smart phones** *Sep. 2010 – Mar. 2011*
- **Multiple access control protocol design for future wireless system** *Sep. 2009 – Feb. 2010*

Publications

- **Data-Driven Mortality Prediction for Trauma Patients**
  Yuanyang Zhang, Bernie Daigle, Lisa Ferrigno, Mitchell Cohen and Linda Petzold
  Invited talk on 2014 Machine Learning in Computation Biology workshop (MLCB 2014) at the Annual Conference on Neural Information Processing Systems (NIPS 2014).
- **Toward a data-driven model of trauma dynamics**
  Linda Petzold, **Yuanyang Zhang**, Bernie Daigle, Lisa Ferrigno, Mitchell Cohen
  Journal of Critical Care 28.6 (2013): e37-e37.
- **Fine-grained channel access in wireless LAN**
  Ji Fang, Kun Tan, **Yuanyang Zhang**, Shouyuan Chen, Lixin Shi, Jiansong Zhang, Yongguang Zhang
  IEEE/ACM Transactions on Networking (TON) 21.3 (2013): 772-787.
- **I am the antenna: accurate outdoor ap location using smartphones**
  Zengbin Zhang, Xia Zhou, Weile Zhang, **Yuanyang Zhang**, Gang Wang, Ben Y Zhao, Haitao Zheng
  Proceedings of the 17th annual international conference on Mobile computing and networking. ACM, 2011 (MobiCom 2011).
- **Fine-grained channel access in wireless LAN**
  Kun Tan, Ji Fang, **Yuanyang Zhang**, Shouyuan Chen, Lixin Shi, Jiansong Zhang, Yongguang Zhang
  SIGCOMM '10 Proceedings of the ACM SIGCOMM 2010 conference (SIGCOMM 2010).

Experience

- **Machine Learning Summer School** **Pittsburgh, PA**
  Carnegie Mellon University *July, 2004*
  - Topics about deep learning, distributed machine learning algorithms, recommendation system, etc.
- **Microsoft Research Asia** **Beijing, China**
  Intern, Wireless and Networking Group *Sep. 2009 – Feb. 2010*

Courses

- **Computer Science**
  CS290B Scalable Internet Service, CS290B Clouding Computing, CS263 Programming Language Runtime Systems, CS211B Numerical Simulation, CS209 Logics in Computer Science, CS211A Matrix Analysis and Computation, CS290D Advanced Data Mining, CS230 Design and Analysis of Algorithms, CS284 Mobile Computing, CS276 Advanced Topics in Networking, CS290F Mobile Computing.
- **Statistics**
  PSTAT275 Survival Analysis, PSTAT225 Linear and Nonlinear Mixed Effect Models, PSTAT207A,B Statistical Theory, PSTAT213A,B Introduction to Probability Theory and Stochastic Processes.

Core Technical Skills

Languages: R, Python, C, C++, LaTeX, Ruby on Rails