Ping Jin

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EDUCATION

University of Alberta, Canada *Sept. 2012 - Present*
M.Sc.(Statistical Machine Learning Program), Computing Science
Supervisor: Prof. Russell Greiner
GPA: 4.0/4.0

University of Hong Kong, Hong Kong *Jan. 2011 - June 2011*
Exchange Student, Computer Science
GPA: 3.93/4.3

Harbin Institute of Technology, China *Sept. 2008 - July 2012*
B.Eng, Computer Science and Technology
GPA: 88.5/100.0 (**Overall**), 91.6/100.0 (**Major**)

SKILLS

Programming Languages: C/C++, Python, MATLAB and R
Tools & Packages: Git, Vim, LaTeX, Markdown, Graphchi

RESEARCH EXPERIENCE

Patient-Specific Survival Curve Prediction *May 2013 - Present*
Supervisor: Prof. Russell Greiner

- Focused on predicting patient-specific survival curves, the goal of which is different from that of the traditional survival analysis, that is, to detect the significant risk factors by comparing the survival time of two populations
- Applied Fused Lasso, which penalizes the difference between temporally adjacent coefficients of the same feature, to guarantee that the effects of features do not dramatically change over a short time
- Currently working on incorporating the structural information over input variables into the model with Group Lasso, as medical measurements can often form meaningful groups such that the features within the same group should share similar coefficients
- Expect more interpretable estimates of the coefficients for features and probably a better prediction accuracy, with Group Lasso

Unified algorithm for bandit online learning and competitive analysis
Supervisors: Prof. Csaba Szepesvári and Dr. András György Mar. 2013 - Present

- Defined the bandit competitive analysis setting to be a two-step procedure that at time t, the predictor takes probe action $\tilde{w}$ first and observes the loss $< \tilde{w}_t, l_t >$ without suffering it, based on which the predictor emits a new action w_t and suffers the loss $< w_t, c_t >$
- Proposed an unified algorithm for bandit competitive analysis and bandit online learning, which follows the common strategy for tackling bandit problems, by taking the algorithm proposed by Niv Buchbinder, which works for unified full information setting, as a black box
- Currently working on discovering the link between the optimal offline loss $OPT(\alpha)$ and the optimal offline loss in the black box $\tilde{OPT}(\alpha)$, based on which the bounds on regret and competitive ratio can be derived

Recommendation with latent social information   *Feb. 2013 - May 2013*
Supervisor: Prof. Russell Greiner

- Focused on movie recommendation problem with social information incorporated
- Proposed Latent Social Regularization Model, that utilizes Mixed Membership Stochastic Model to extract the latent social roles of users from social relationships, based on which social regularization terms are constructed to penalize the difference between the coefficients of users who share similar social roles
- Experimented with Graphchi on Douban dataset, which includes 129,490 users and 58,541 movies with 16,830,839 movie ratings and 1,692,952 friendship links
- Decreased the RMSE by 1.13%, compared with the Social Regularization model without involving latent social roles

Attention deficit hyperactivity disorder classification based on fMRI images   *Sept. 2012 - Dec. 2012*
Supervisors: Prof. Russell Greiner and Prof. Dale Schuurmans

- Proposed and implemented 3D Histogram of Oriented Gradients (3D-HOG) feature descriptor for fMRI data, that captures the spatial relationships among voxels, the patterns of which are helpful in fMRI-based classification tasks
- Applied kernel PCA to fMRI data, which reduces the number of dimensions for a single patient from about 191K to 4K
- Achieved 62.39% on prediction accuracy, which is better than the best known 59.45%
- Published a workshop paper in NIPS 2013

PUBLICATIONS

- S. Ghiassian, R. Greiner, P. Jin, and M. Brown. Learning to Classify Psychiatric Disorders based on fMR Images: Autism vs Healthy and ADHD vs Healthy. *3rd **NIPS** Workshop on Machine Learning and Interpretation in Neuroimaging*, November 2013

HONORS & AWARDS

- 2014 Computing Science GPA Award, University of Alberta   *2014*
- CASC Scholarship, by China Aerospace Science and Technology Corporation (Awarded to 1 of 174 in CS Dept)   *2011*
- Li & Fung Scholarship, by Li & Fung Limited, Hong Kong   *2011*
- National First Prize of China Undergraduate Mathematical Contest in Modeling (Awarded to **top 1.5% in 14,113 teams**)   *2010*
- Second Prize of ACM/ICPC Third China Northeast Programming Contest *2009*
- First Prize of ACM/ICPC Heilongjiang Provincial Programming Contest *2009*

TEACHING EXPERIENCES

University of Alberta

- CMPUT 174 Introduction to the Foundations of Computation I   *2012 Fall*
- CMPUT 175 Introduction to the Foundations of Computation II *2013 Winter*

Harbin Institute of Technology

- Advanced C++ Language and Programming   *2009 Fall*