ZHONGYUAN LYU

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EDUCATION

University of Michigan, Ann Arbor   September 2017 - Present
M.S. in Applied Statistics, Overall GPA: 3.782/4

Related courses (PhD level):
Probability Theory (in progress), Advanced Inference II (A),
Multivariate and Categorical Data Analysis (A), Large Sample Theory (A-)

Fudan University   September 2013 - June 2017
B.S. in Statistics, Overall GPA: 3.41/4

Related courses:
Probabilty Theory and Mathematical Statistics (A), Statistical Inference (A)

University of Warwick   September 2015 - December 2015
Undergraduate Overseas Exchange (UIOA-EOS)

RESEARCH EXPERIENCES

Adaptive Latent Class Regression Modeling on Childhood Pneumonia Etiology
May 2018 - Now

Researcher in Department of Biostatistics under Zhenke, Wu   *University of Michigan, Ann Arbor*

· Modified the iterative re-weighted least square part of the methodology of Generalized Additive Model Selection using C and R.
· Implemented the Distributed Multinomial Regression using R.
· Extended the method to multinomial logistic case using Poisson approximation.

Applying Latent Class Model to Psychometrics Data
March 2018 - Now

Researcher in Department of Statistics under Gongjun, Xu   *University of Michigan, Ann Arbor*

· Implemented the algorithm of estimating Q-matrix in latent class model based the maximum likelihood estimation by EM algorithm using R.
· Improved the speed of the algorithm by rewrote the code in C.
· (To be added since the project is still in progress..)

Exploration in Predicting Outcomes of NBA Games
January 2017 - June 2017

Dissertation of Undergraduate under Juan, Shen   *Fudan University*

· Designed and developed a program that using web crawling technique to fetch the team-level STATS for each game from NBA official website using Python.
· Applied classic linear regression and logistic regression on the above dataset using R.
· Applied Group-Lasso method for both regressions to do the variable selecting for both linear and logistic cases using R.
· Simulated the pattern of NBA playoffs to predict the championship by probability using the regular season STATS using Python.

Simulation Study of Bundesliga Season Outcomes
January 2017 - June 2017

Researcher under Peiwen,Yu   *Fudan University*

· Applied dimension reduction technique to formulate the predictors for regression.
· Applied Bayes multiple logistic regression and simulation (posterior sampling) to predict teams qualified for the UEFA Champions League based on previous Bundesliga teams' data using Python.

INTERNSHIP EXPERIENCES

Game Operation
July 2016 - August 2016
Tencent   *Shanghai*

· Followed up analysis on competitive products.
· Independently designed and wrote user questionnaires
· Collected and cleaned research data, analyzed and wrote data reports.

Audit Department
July 2015 - September 2015
Ernst & Young   *Shanghai*

· Visited and interviewed the participating enterprises of Fudan - E&Y Most Potential Enterprise Contest Awards & Extracurricular Activities.

SKILLS

Computer Languages	Pascal, C Language, SAS, R, Julia, Stata, Python, Mathematica, Matlab, Stata, SQL
Softwares	Photoshop, Premiere, Flash, Office