Xinyue Chang

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- *Trained applied statistician with 5+ years' experience in data-driven research and statistical programming.*
- *Strategic, proactive data scientist with background in statistics and engineering, capable of independently conducting end-to-end analysis and modeling for large-scale data.*
- *Positive, deliberative collaborator with strong communication skills, having engaged with researchers from machine learning, geology and business.*

Technical Skills

Programming R, Python, SQL, SAS, Matlab, Shell Script, C++, parallel programming
Software RStudio, Mathematica, ArcGIS, SPSS, JMP
Reporting R Shiny, HTML, LaTeX

Education

Iowa State University (ISU)

Ames, IA

Ph.D. in Statistics

Aug. 2016 – May 2020

- GPA 3.95/4.0 including courses: Modern Multivariate Statistical Learning, Machine Learning, Nonparametric Methods in Statistics, Advanced Spatial Statistics, Theory and Applications of Sample Surveys.
- Research Interest: Functional/longitudinal data, remote sensing data, spatial statistics, statistical applications on geological and environmental science.

University of Minnesota, Duluth (UMD)

Duluth, MN

M.S. in Applied and Computational Mathematics

Aug. 2014 – May 2016

- Minor in Computer Science, Overall GPA: 3.97/4.0, Major GPA: 4.0/4.0
- Thesis: Test of Complete Spatial Randomness on Network.

Harbin Institute of Technology (HIT)

Harbin, China

B.Eng. in Automation

Aug. 2010 – Jun. 2014

- Overall GPA: 89.1/100, Major GPA: 90.72/100, Rank: 8% (14/179)
- Thesis: Discrete T-S Fuzzy Descriptor Control System with Time-delay

Work Experience

Center for Survey Statistics and Methodology

Ames, IA

Research Assistant

Jun. 2018 – PRESENT

- Developed and implemented a class of sparse functional change-point detection methods based on FPCA, CUSUM and ensemble to test and estimate the change-year in urbanization process by using Landsat data, which performed better than the existing regression-based method.
- Improved STFIT imputation algorithm for satellite image data on pixel-wise annual mean trend and spatial effect estimations such that the machine learning algorithm is able to classify water pixels and outperforms JRC on capturing temporal water area change.

Uber Technologies Inc.

San Francisco, CA

Data Scientist Intern

May 2019 – Aug. 2019

- Focused on model evaluation using performance data from SQL query, contributed to model observability at marketplace forecasting team.
- Conducted error analysis, explored potential features for the tree-based models to provide support and insights for model improvement.
- Built a monitoring & alerting system prototype in python to accelerate machine learning model development cycle, which includes metrics threshold calculation, detecting daily alerts in city level, and automatic root cause analysis based on statistical testing and feature selection.

After Inc.

Norwalk, CT

R Shiny Developer (Remote) *Aug. 2017 – May 2018*

- Generated R shiny reports by templates, created customized reports and participated in developing new web apps.
- Developed templates in python for heatmap and serial range diagnostics reports, maintained the reporting repository.
- Designed and completed a python-written framework for doing the same modification/editing in multiple R files.

Iowa State University

Ames, IA

Teaching Assistant *Aug. 2016 – May 2017*

- Assisted with answering R questions in lab session once a week, instructed students finish their assignments.
- Held office hours, graded lab assignments and homework timely.

University of Minnesota, Duluth

Duluth, MN

Teaching Assistant *Aug. 2014 – May 2016*

- Led and managed discussion sections twice a week, explained example questions to the class.
- Held office hours and graded quizzes every week.

Publications

Chang, X., Li, Y. (2020). Regression and Variable Selection in Asynchronous Longitudinal Data using Multivariate Functional Principal Component Analysis. In progress.

Chang, X., Zhu, Z., Hobbs, J. (2019). A Geospatial Functional Model for OCO-2 data with Applications on Imputation and Land Fraction Estimation. *Annals of Applied Statistics*, to be submitted.

Labuzzetta, C., Zhu, Z., **Chang, X.**, Zhou, Y. (2019). Spatiotemporal Refinement of Water Classification via Random Forest Classifiers and Gap-fill Imputation in Landsat Imagery. *Statistical Analysis and Data Mining*, to be sumitted.

Zhuang, Y., **Chang, X.**, Lee, Y. (2018). Board Composition and Corporate Social Responsibility Performance: Evidence from Chinese Public Firms. *Sustainability* 10(8), 2752. DOI: 10.3390/su10082752

Presentations

July 2019, **Functional Change-point Detection for Multivariate Sparse Functional Data with Application on Urban Dynamics**, Joint Statistical Meetings (JSM), Denver CO

Selected Honors & Awards

2019	**Top 13%, 300/2330**, Kaggle Competition: Don't Overfit! II, Team leader	*ISU*
2018	**Meritorious Research Award**, Advanced Spatial Statistics Class Course Project, Team leader	*ISU*
2017	**Award for Experiential Development**, Department of Statistics	*ISU*
2016	**Outstanding Graduate Student Award**, Department of Mathematics & Statistics	*UMD*
2015	**Comprehensive Examination Distinction**, Department of Mathematics & Statistics	*UMD*
2012	**8841 Continuous Influence Scholarship**, Department of Control Science and Engineering	*HIT*

Leadership & Service

2019-2020	**Member**, Graduate College Emerging Leadership Academy	*ISU*
2019	**Organizer**, Survey Working Group Seminar at Department of Statistics	*ISU*
2019	**Membership**, American Statistical Association	*U.S.*
2017-2019	**Senator**, Graduate and Professional Student Senate	*ISU*
2011-2012	**Co-founder**, Magic Club	*HIT*