# ZIHAN (CLAIRE) ZHOU

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## QUALIFICATIONS

**Research experience on improving transparency in machine learning models and fairness model design. Experienced data analyst and programmer of 7 years. After leading several data analysis projects in various fields including health and education, I'm equipped with extensive cutting-edge knowledge and up-to-data skills in the following areas: Machine Learning Models, Data manipulation, Data analysis, Statistical models, Report produce.**

## SKILLS

**Analytical Methodology:**

Machine Learning Models (CNN, RNN, LSTM, GRU, AE, VAE, Attention Neural Network, etc.) (2 years)

Recommender System (2 years)     Hawkes Process (1 year)     NLP (1 year)

Model Transparency (2 years)     Fairness Model (1 year)

**Statistical Methodology:**

Hypothesis Testing (4 years)     Bayesian (2 years)     Linear/ Generalized Linear Regression (4 years)

ANOVA/ ANCOVA (4 years)     Survival Analysis (2 years)     t-Test/Chi-squared Test (4 years)

**Programming:**

Python (4 years)     SAS (4 years)     R (2 years)

SQL (4 years)     MS Access (2 years)     MS Office Word, Excel, PowerPoint (10+ years)

## PUBLICATION

- A Model-Agnostic Approach for Explaining the Predictions on Clustered Data (ICDM), China, Nov.2019

## WORK EXPERIENCE AND PROJECTS

**Research Assistant in Louisiana State University (08/17 – current)**

- Research projects on improve model transparency: design methodology to explain the behavior of complex models (DNN) to either enhance user trust or to expose model issues.
- Research interest in fairness in Hawkes process: develop methodology to improve fairness in Hawkes process

**Education Research Analyst – LA Department of Education, Baton Rouge, Louisiana (09/14 – 06/17)**

- Review and verify validity and accuracy of the data collected by the Department
- Clean data and prepare data for project use or for summary report
- Research on education data: Analyze relationships of various indicators by using statistical techniques such as regression factor analysis, Kappa test, and other emergent methodologies in educational statistics.
- Prepare tables and graphs and summarize results then draft research reports for a variety of audiences, including education policy makers and practitioners

**Programmer and Student Consultant – University of Michigan, Ann Arbor, Michigan (09/2013 – 05/2014)**

Projects on:

- Cohort Difference in the Rate of Cognitive Decline
- Comparing Ann Arbor Grading Scheme and Glucksberg Grading Scheme by Simulation
- Survival Analysis of Head and Neck Cancer
- Effect of Helmet Law Modification in Michigan
- Detecting Biomarkers Associated with Engraftment Syndrome

Served as the consultant and solved all the statistical problems which include data simulation, missing data imputation, pattern recognition and identification, model design and diagnosis, hypothesis testing, coefficients estimation and response prediction, report production and result presentation.

**Teaching Assistant – University of Michigan, Ann Arbor, Michigan (09/2013 – 01/2014)**

- Graduate student instructor for Statistical Inference: tutor and grade homework

**Teaching Assistant – Bowling Green State University, Bowling Green, Ohio (08/2010 – 05/2012)**

- Instructor for *Pre-Calculus* and *College Algebra:* Lecture and grade homework

## EDUCATION

**PhD candidate in Computer Science, Louisiana State University, 08/17 – current**

**Master in Biostatistics, University of Michigan, 08/2012 – 05/2014**

**Master in Applied Mathematics, Bowling Green State University, 08/2010 – 05/2012**