**Steven Xu**

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**Professional Summary**

Currently a second year PhD candidate in Statistics. Research interests include **Bayesian Inference, Quantile Regression** and **Machine Learning**. Adept in R, SAS and Python with experience in leading multiple research/analytical projects. Excellent interpersonal and communicating skills as well as proven academic writing skills.

**Education**

**North Carolina State University | Raleigh, NC** Aug. 2017 - May 2022

Doctor of Philosophy: Statistics

Advisor: Dr. Brian Reich

Member of American Statistical Association

**University of Washington | Seattle, WA** Aug. 2013 – Jun. 2017

Bachelor of Science: Statistics

Minors: Applied Mathematics, Mathematics

Dean’s list: 2015 - 2017

**Skills**

* Fluent in R/RStudio, SAS/IML, Python
* Familiar with Julia, MATLAB, Java
* Experience with cloud analytics and HPC
* Proficient in Microsoft Office products
* Experience with UNIX and Windows
* Bilingual in English and Mandarin

**Certificate**

* Certified Specialist: Base programming using SAS 9.4
* Certified Professional: Advanced programming using SAS 9.4

**Relevant coursework**

* Advanced Statistical Inference
* Bayesian Inference and Analysis
* Computation Statistics
* Data Mining and Machine Learning
* Statistical Consulting
* Statistical Principles of Clinical Trials
* Analysis of Survival Data
* Longitudinal Data Analysis
* Resampling Methods

**Career Experience**

**Internet of Things Intern | SAS Institute | Cary, NC** May 2019 – Present

* Researching on video foreground extraction using **Robust Principal Component Analysis (RPCA)**.
* Collaborating with NASA and applied RPCA on detecting wildfire in Amazon from satellite images.
* Wrote Python code to visualize and process hyperspectral images.

**Head Teaching Assistant | North Carolina State University | Raleigh, NC** Aug 2019 – Present

* Supervising 19 instructors and graders for an introductory statistics course.
* Maintaining course website accessed by over 500 undergraduate students.

**Biostatistics Intern | UNC Center for AIDS Research | Chapel Hill, NC** May 2019 – Jul. 2019

* Researched on transporting outcomes from randomized trials to target population using **bootstrap multiple imputation**.
* Analyzed trial and cohort data to investigate correlation between suicidal thoughts and Efavirenz intake.
* Co-authored a manuscript and wrote R code for the analysis.

**Lecturer | North Carolina State University | Raleigh, NC** Aug. 2017 – May 2019

* Taught 3 sessions (35 students each) of undergraduate statistics course.
* Delivered entry-level concepts to students from various backgrounds with little or no exposure to statistics.
* Revamped course structure to help students learn in a more efficient and interactive way.

**Research Experience**

**Simultaneous Quantile Regression with Bayesian Neural Network** Jan. 2019 – Present

* A thesis project focusing on **Bayesian nonparametric** method for simultaneous quantile estimation.
* Proposed innovative model that combines **monotonic spline** and **ReLU network**.
* Wrote **Hamiltonian Monte Carlo** simulation code using Python, R and STAN.

**Multivariate anomaly detection using Canonical Variate Analysis** May. 2019 – Aug. 2019

* Investigated modern methods on real-time **process monitoring** and **anomaly detection**.
* Researched on classical and kernel **canonical variate analysis (CVA)** and wrote prototype code in SAS/IML.
* Achieved over **98%** detection rate on two chemical process control benchmark datasets.

**Robust Bayesian Forecasting with State-Space models** Aug. 2018 – Dec. 2018

* Leader of a group project targeting innovative **Bayesian imputation** and **forecasting** method for water usage data.
* Conducted extensive literature review on **Bayesian time series** and **hierarchical modelling**.
* Proposed a method that is proven to be more flexible and can better forecast non-gaussian time series.