YUTONG ZHANG

CONTACT

- *yutongz@vt.edu*
- *(267)506-8497*
- *Blacksburg, VA 24060*

SKILLS

Programming languages

- Expert in R, Python, MATLAB, MySQL, Gurobi, LaTeX
- Knowledgeable of VBA, Scala, Linux Shell, AMPL, Tableau, Mongo

Data analytics

- Expert in statistical learning, control charts, Gaussian process regression, simulation metamodeling, design and analysis of computer experiments, Bayesian optimization
- Knowledgeable of general machine learning methods, deep learning, natural language processing

SUMMARY

Operations research Ph.D. candidate with background in statistics. Strong technical proficiency with research history in data analysis. In-depth knowledge of R, Python, MATLAB, and MySQL coupled with data collection, cleaning, analysis, and visualization. Proven history of performance in multi-tasking, problem-solving, and time-balancing.

RESEARCH EXPERIENCE

Virginia Tech - **Simulation Metamodeling-based Projects**
09/2020 - Current

A Sequential Metamodel-based Approach for Stochastic Simulation Level Set Estimation

- Propose a metamodel-based algorithm to guide the next-point selection for a more accurate fitting surface estimation
- Prove the convergence order of the regret term for the algorithm
- Use MATLAB and R to implement the proposed method and the state-of-the-art methods as benchmarks

Empirical Uniform Bounds for Heteroscedastic Metamodeling

- Propose an empirical uniform bound by integrating the estimation of noise variance into the uniform bound
- Use MATLAB to implement the proposed bounds

Information Consistency of Stochastic Kriging and Its Implications

- Prove the information consistency for stochastic kriging models
Use the results to guide the design of simulation experiments for constructing metamodels

Virginia Tech - **Fog Manufacturing-based Projects**
09/2018 - 05/2020

Building a Fog Manufacturing Platform

- Build a Fog manufacturing platform by one PC and ten Raspberry Pi
- Adopt the Linux shell language for information transmission among computational units
- Implement the computation pipelines on each Raspberry Pi
- Use SQL to store the performance data and computation results

Analysis of A Fog Manufacturing System

- Conduct hypothesis tests to identify important factors in a Fog manufacturing system
- Use the machine learning methods to predict performances in a Fog manufacturing system
- Use the control charts to detect anomaly in the computation process

USTC - **Senior Design**
09/2016 - 06/2017

An Investigation on PM 2.5 Distribution

- Conduct the exploratory data analysis to summarize the features of a PM2.5 data set
- Adopt the clustering analysis to identify cluster features of PM2.5 distribution
- Utilize the principal component analysis to check the influential factors on PM2.5 distribution
- Use R to implement the statistical analysis and compare with the results from available packages to validate results

EDUCATION

Expected in 08/2023

Ph.D - Industrial & Systems Engineering

Virginia Tech

Blacksburg, VA

GPA: 3.96/4.0

05/2018

Master of Science - Statistics

Temple University

Philadelphia, PA

GPA: 3.84/4.0

06/2017

Bachelor of Science - Statistics

University of Science And Technology of China

Hefei, China

COURSES

-

PUBLICATIONS

Please find my publications, presentations, etc. at [[link]].