

FANFEI (FAUSTINE) LI

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Profile

A Master's student in the Duke Statistical Science program with a passion for solving problems, especially in the fields of energy, environment, and technology. Currently seeking a summer internship in statistics / data science.

Education

Duke University, Durham NC
MS Statistical Science

August 2016 – Expected May 2018

California Institute of Technology, Pasadena CA
BS Chemical Engineering

September 2011 – June 2015

Work Experience

Research Data Analyst, Oak Ridge National Laboratory

June 2015 – July 2016

- Cleaned, analyzed, and visualized data collected on particulate matter from engine emissions.
- Wrote MATLAB code to perform statistical tests such as outlier detection and ANOVA.
- Developed scripts to facilitate image segmentation of particulate aggregates.
- Automated data cleaning steps including time-alignment, filtering, and error checking.
- Produced publication quality plots and wrote a set of experimental guidelines.

Research Experience

Undergraduate Researcher, Caltech

Summer 2014

- Developed rate equation models in MATLAB to simulate the kinetics of photochemical smog.
- Used Mathematica to visualize the impact of reactive oxygen species in aerosol droplets.
- Created reports, read literature, analyzed model parameters, and designed graphics.

Undergraduate Researcher, Caltech

Summer 2013

- Researched a method to dynamically alter the physical properties of hydrogel bio-materials.
- Prepared samples, ran experiments, designed primers, and used various analytical techniques.

Projects

- Investigating the efficacy of various machine learning algorithms using the Cleveland Clinic Heart Disease data set. Used cross-validation and AUC to gauge model performance.
- Built and optimized a small-scale plasma-based reactor that converts methane gas into higher order products. Used statistical design of experiments to find a set of operating conditions.

Skills

- Proficient in R and MATLAB. Familiar with Python and Mathematica.
- Familiar with Git Github, Latex, Markdown, HTML, and R packages such as ggplot and Shiny.
- Currently taking courses in Bayesian Statistics, Machine Learning and Statistical Computing.