

Haoyang (Dennis) Liu

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OBJECTIVE

Graduating Senior with a BA in Mathematics and Statistics with undergraduate research and work experience in data analysis and data visualization. A self-learning worker who thrives in teamwork seeks for job in the exciting data science field.

EDUCATION

Grinnell College

May 2018

Bachelor of Arts in Mathematic and Statistics

- *Selected Coursework:* Algorithms and OO Design, Probability and Statistics and Statistical Modeling
- Undergraduate Statistics Project Competition Honorable Mention "What Impacts Tuition-An Examination of Institutional Control and Tuition Pricing Difference"

SKILLS

Proficient: R, SQL, C, Java, Matlab, Tableau **Intermediate:** Mathematica, HML, SAS

WORKING EXPERIENCE

Grinnell College, Department of Mathematics and Statistics

Grinnell, IA

Mentor/Teaching Assistant

Aug 2016-Dec 2016, Aug 2017 - Now

- Held weekly R help office hour
- Lead weekly mentor session/discussion session

Guest Lecturer

Sep 2017

- Lectured *Tidy Data in R* in an advanced statistical modeling class
- Mentored students on their in-class projects

Aliding Bank

Shanghai, China

Risk Management Intern

June 2016-August 2016

- Maintained corporate database and generate daily and monthly corporate report using SQL
- Evaluated and modeled corporate risk level using SAS
- Built risk control model to decrease the risk level by 5%

RESEARCH EXPERIENCE

Data Visualization and Random Forest Algorithm Design

May 2017-August 2017

Grinnell College Summer Research

Advisor: Dr. Shonda Kuiper, Mathematics and Statistics, Grinnell College

Summary: Using R to develop and maintain multiple data visualization apps, including 1. a web app for Natural Language Processing, based on text corpus obtained from Twitter and other social media; 2. a web app using New York Police Department Stop and Frisk data and crime and education data; 3. a web app visualizing error rate calculation in random forest and classification tree analysis.

Creating Multi-faceted Visualizations to Understand Reproducible Research

Jan 2017-May 2017

Grinnell College Mentored Advanced Project/Undergraduate Research

Advisor: Dr. Shonda Kuiper, Mathematics and Statistics, Grinnell College

Summary: Utilizing R and Javascript to manage large amount of data and create web app aiming at using game data to demonstrate importance of proper experimental design. Research products also include lab series on CART Analysis and comparison between *t-test* and *ANOVA*.

RELEVANT PROJECT

Geographical Visualization of Medicare Providers

Nov 2016

2016 ArchHacks

St. Louis, MO

Summary: The project uses *shiny* and *Leaflet* Package in R to plot the locations of individual providers and organization providers onto a map of the United States and provides detailed information. Users can also filter this information by the state of their interest.

Data Visualization of United States Government Spending

Sep 2016

Summary: The project uses *shiny* in R to visualize each category of U.S. government spending from 1970 to 2015. Users can select plot variable for each category from amount, growth compared to the previous year and the percentage of that category at that year.