Justin Tse

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EDUCATION

Columbia University
New York City

Masters of Arts Statistics, 3.75 GPA
Degree expected December 2018

University of Utah
Salt Lake City

B.S. Honors Mathematics, Computer Science Minor 3.9 GPA
Degree conferred May 2017

EXPERIENCE

Research Assistant
Professor Tom Alberts
University of Utah
May 2016 - May 2017

- Utilized novel probabilistic and geometric techniques to analyze the statistics of longest paths in last passage percolation, a model of cluster growth.
- Programmed simulations in SageMath and C# to explore the structure of extreme rays and their connection to path probabilities.
- The model under consideration has far-reaching applications to crystals, forest fires, cancerous tumors, sea ice formation, and viral social media.

Research Assistant
Professor Fernando Guevara Vasquez
University of Utah
Jan 2016 - May 2016,
Jan 2017 - May 2017

- Analyzed inverse networks problems to expand the scope of information and knowledge that can be attained in situations of extremely sparse output data.
- The various problems have applications in circuit and spring networks, specifically, medical imaging and mapping properties of aquifers.
- Research results based on this project are slated for publication in Fall 2018.

PROJECTS

Bank Customer Behaviour
Jan 2018 - Apr 2018

- Used customer behavioural data to gauge customer satisfaction.
- Created a model using logistic regression, random forests, and gradient tree boosting to predict which products customers would buy in a given month.

Speed Dating Neural Network
Oct 2017 - Dec 2017

- Trained a neural network in R that predicts if two people will be romantically compatible with each other.
- Received second place in a compeitition of various AI projects hosted by the Columbia Statistics Club.

Boggle Server
Apr 2016 - May 2016

- Developed a server in C# that provided a RESTful architecture where multiple people could play Boggle against each other.
- Designed an SQL database schema to handle game information.
- Developed a thread-safe socket wrapper to handle asynchronous sending and receiving of strings.

SKILLS

Python
R
LaTeX
C#
SQL

AWARDS AND HONORS

MCM: The Mathematical Contest in Modeling, 2016 | *Honorable Mention*
MCM: The Mathematical Contest in Modeling, 2015 | *Honorable Mention*
University of Utah Honors at Entrance Scholarship
University of Utah Dean's List