**Zheming Gao**

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**Summary**

* *Seeking a Summer Internship opportunity in analytics field. Target title:* **Data Scientist/Research Scientist**
* *Possess B.S. and M.S degrees in* ***Mathematics*** *and currently pursuing Ph.D degree in* ***Operations Research****.*
* *One-year experience in data analysis, analyzing different kinds of datasets by Python and MATLAB.*
* *Two-year hands-on practice in mathematical modeling, involving in projects using C and MATLAB*

**Education**

**North Carolina State University Raleigh, NC, USA**

*Ph.D in Operations Research with GPA 4.0 Aug 2016 – Present*

**Texas A&M University College Station, TX, USA**

*Master of Science in Mathematics with GPA 3.9 Aug 2014 – May 2016*

**Beihang University Beijing, China**

*Bachelor of Science in Mathematics, Aug 2011 – June 2015*

**Coursework**

## Linear Programming | Nonlinear Programming | Stochastic Process | Statistical Inference | Mathematical Modeling | Data Structure | Linear Algebra and Matrix Theory | Numerical & Statistical Optimization | Combinatorics & Graph Theory | Large Aircraft Industrial Economics |

**Research & Academic Project**

**Remote Assessment and Short-term Forecasting for the Nearshore**  *July 2017*

*Advisors: Dr. Ty Hesser, Dr. Matthew Farthing(U.S. Army Corps of Engineers), Dr. Lea Jenkins (Clemson University).*

## Implemented Python and MATLAB to clean and generally visualize the raw data.

## Construct PDE model and use statistical forecasting (Time-series, Regression) to predict the parameters

## required for a short-term nearshore forecasting.

## Used the training data set and successfully forecasted wave height, speed and sandbar locations for the next 72 hours using data collected during the past one-year within a 95% precision.

## This project was supported by SAMSI during the Industrial Math/Stat Modeling(IMSM) workshop.

**Linear Discrimination Analysis （Data Clustering for Eyeball Images）** *Jan 2017 – May 2017*

*Project advisor:* [*Dr. Eric Chi*](http://www.ericchi.com/)

## Implemented Python and MATLAB to clean and save raw data images of eyeballs into matrices.

## Applied SVD on pretreated data matrices to build an algorithm of LDA on data in a higher dimension.

## Applied this algorithm with MATLAB on training data and successfully recognized if the given image of an eyeball is diseased within high precision.

**Image Denoising** *Feb 2017 – Apr 2017*

*Project advisor:* [*Dr. Arvind Saibaba*](http://www4.ncsu.edu/~asaibab/)

## Constructed Least Square problem with penalty function (Lasso, Nuclear norm) for sparse linear systems.

## Solved the LS problem by using HyBR algorithm.

## Implemented MATLAB to code for HyBR algorithm and applied artificial sparse images to the algorithm.

**Greedy Algorithms for Convex Optimization (Master Thesis)** *Oct 2014 – May 2016*

*Research advisor:* [*Dr. Guergana Petrova*](http://www.math.tamu.edu/~gpetrova/)

* Used greedy idea to solve optimization problems. Built and implied Rescaled Greedy Algorithm for convex optimization problems. It converges faster than most of typical numerical methods under special conditions.
* Implemented MATLAB to code for Rescaled Greedy Algorithm. Applied it on several convex optimization examples. In the convex optimization with logistic function as the objective function, our algorithm worked better than logistic regression in R under specific conditions.

**Skill**

* Bilingual in Chinese (Mandarin) and English.
* Proficient in MATLAB, Python(Numpy, Scipy, Matplotlib) and C.
* Proficient in Microsoft Office suit (Word, Excel, PowerPoint, Publisher and Outlook).
* Operations Research: Linear Programming, Nonlinear Programming, Stochastic Process analysis.
* Development Tool: Git, Visual Studios, Linux(Ubuntu).

**Awards**

**Dr. Walter E. Koss Endowed Fellowship** (*Texas A&M University )*  *2015*

**Contemporary Undergrad Math Modelting contest** (*Beihang University )**2013*

**Airbus Scholarship** (*Beihang University )*  *2013*