Wang Yao

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SUMMARY

5+ years experiences in data science and machine learning, a well-trained scientist in mathematical optimization and algorithm development, passionate presenter with extensive knowledge in numerical methods for solving large scale statistical learning problems. Highly analytical, focused and personable, with broad interests in quantitative research, technology and consulting

EDUCATION

Ph.D. in **Operations Research**, **Rutgers University, New Brunswick, NJ** 2010-2016
B.A. in **Mathematics**, Minor: **Statistics**, **Rutgers University, NJ**. *Magna Cum Laude* 2006-2010

RESEARCH

Ph.D. Dissertation: Approximate Versions of Alternating Direction Method of Multipliers

- Developed three new numerical algorithms for multi-block minimization models in machine learning
- Implemented new engine for common optimization problems with Matlab and C++, and wrote a library including conjugate gradient, L-BFGS and steepest decent method as sub-solvers
- Overall computing overhead is reduced by 30% compared with classical frameworks

WORK EXPERIENCE

Honeywell Data Scientist, Center of Excellence Oct. 2016 - Present

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Chubb Corporation Claim Actuarial and Advanced Analytics May 2015 - Oct. 2016

- Performed ETL on massive claims data to create variables. Built decision tree severity model for 7-Eleven bodily injury claims at first contact and logistic regression model at 6 months. Compared to subjective classification that is used in practice, new models leads to significant improvements in the prediction of severity level and insurer's reserves
- Carried out the statistical analysis on social network data of underwriters with **R** and **iGraph** to identify the key network metrics shared by successful underwriters. Established the SVM network-revenue model and provided actionable solutions to help underwriters discover more revenue opportunities by improving their professional network structure

Novartis Pharmaceuticals Corporation Intern, Integrated Quantitative Science Summer 2014

- Learned basic PK/PD models, applied quantitative methods for dose escalation and selection in clinical trials. Developed and designed web application for clinicians to compare simulation results and test hypothesis using **Linux**, **Apache** web server, along with **MySQL**, **Python** and **R** on back-end; **Javascript** and **D3.js** for front-end visualization. Greatly reduced the overhead of communication between clinicians and pharmacometricians

Eli Lilly and Company Data Visualization Intern, Manufacturing Technology Summer 2012, 2013

- Tested extensively the Bioprocess Data Collection System Data Mart(BDCSDM) with **SQL** and enhanced the data visualization application by adding new practical features with **.NET**
- Significantly advanced automation level of visualization tool from previous internship to minimize the effort of maintenance. Independently developed an automatic data acquisition program for five filtration experiments
- Fully utilized the advanced equipment and hence greatly reduced the cost of human resources and created manuals for both data visualization and acquisition applications to aid users and developers

Command, Control, and Interoperability Center for Advanced Data Analysis Jan.-Jun. 2013

- Captured and analyzed complex information given by Coast Guard to properly frame the problem and helped to establish the mathematical model with **Xpress-Mosel**
- Presented the briefings to upper management monthly and drafted the guidance on the project. Provided best sharing plan for U.S. Coast Guard to cover required mission hours under tight budget