

RENJIE SONG, FSA

Data Scientist
Actuary

Seasoned data scientist with 7+ years of management consulting, actuarial, hedge fund and retail experience.

CONTACT

✉ renjie.song01@gmail.com
☎ 773.789.7015
in [Renjie-Song-FSA](#)

SKILLS

Machine Learning

Regression, Regularization, Optimization, Classification, Clustering, Feature Selection, Dimension Reduction, Linear Programming, Tensor Analysis/Decomposition, Image Processing, Computer Vision; Familiar with Deep Learning, Reinforcement Learning, Simulation, NLP, geospatial analysis

Languages & Tools

Python, R, Scala, VBA, Arena, HTML, CSS, JS, GitHub

Selected Python Libraries

Sklearn, OpenCV, CVXPY, Pandas, NumPy, TensorFlow, PyTorch, spaCy, Flask

Big Data/Cloud

MSSQL, PostgreSQL, Spark, Hive, AWS, GCP

Data Visualization

Matplotlib, Dash by Plotly, Tableau, D3.js

EDUCATION

Georgia Tech

M.S. Analytics/Data Science
May 2020 - GPA 4.00

Kalamazoo College

B.A. Math, CS, Business
June 2013 - GPA 3.96

CREDENTIALS

Society of Actuaries

Fellow
Mar. '18 - Present
Coursera

Deep Learning Specialization
June '19

EXPERIENCE

Quantum Inc.

Dec. '19 – Present

Senior Data Scientist

- Building merchandise assortment decision engine for one of the largest retailers in the world using big data and advanced analytics
- Developing test and learn strategies to select test stores and matching control stores while monitoring ongoing results
- Creating customer segmentation signals using transaction and shopper buying behavior data
- Developing feature engineering pipelines using Spark Scala on GCP Hadoop clusters

Vida Capital Inc.

Jan. '19 – Dec. '19

Director, Actuarial Data Science

- Managed a small team of data analysts and engineers
- In charge of a project intended to improve the company's document processing capabilities using NLP, computer vision and OCR technologies
- Created lead generation calculator to offer real-time life settlement estimates average within 10% of the final offer price; Over 5,000 calculations performed since launched, and \$100M+ face amount buying opportunities identified
- Developed independent actual-to-expected assessment of 3rd party life expectancy estimates and provided critical insights to the management team

Milliman Inc., Financial Risk Management

Mar. '16 – Jan. '19

Consulting Actuary (Quantitative Developer)

- Performed regression-based experience studies to provide clients with a better view of industry lapse, mortality experience, and policyholder behaviors
- Developed inforce compression tools using clustering (K-mean) and feature-selection (GBM) to reduce run-time
- Created variable annuity hedging models in C++, with complex asset and liability logic
- Primary developer for several major outsourcing clients; Areas of focus: ETL, cloud/grid environment, inforce creation; Tools used: C# & SQL
- Lead model developer for multiple M&A consulting projects

Deloitte Consulting LLP, Actuarial, Risk & Advanced Analytics

Aug. '13 – Mar. '16

Actuarial Management Consultant

- Worked on life insurance predictive analytics projects, including bid preparation, readiness assessment, and subsequent model build
- Developed predictive analytics use cases in areas such as application triage, cross-sell, up-sell and agent retention
- Led Deloitte training sessions on the business applications of predictive analytics in the life insurance industry

DATA SCIENCE PROJECT

Austin Gentrification Explorer

- Designed a model to analyze and predict gentrification in Austin over multiple years using public data sets from US Census and City of Austin as well as proprietary rental data
- Model produced consistent results compared to previous academic researches and was able to generate more up-to-date predictions confirmed by empirical observations
- Developed web app to visualize results and enable users to vary timeframe/model inputs to explore study findings; Tool used: Dash by Plotly (Python/Flask/React)