

# Justin Gong

Data Science | Advanced Analytics | Machine Learning

Data scientist with 1.5+ years' experience in project work. Skilled in machine learning, statistics, and programming. Strong curiosity to learn, highly coachable, and excited to bring value to your team.

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## EDUCATION

**Master of Science in Analytics**

*GPA 3.83*

Georgia Institute of Technology

*01/2018 – 05/2019*

**Bachelor of Science in Managerial Economics** *GPA 3.54*

University of California, Davis

*09/2012 – 06/2014*

## PROJECTS

**Emory Healthcare Practicum (01/2019 – 05/2019)** | Link: [www.gong-jj.com/nhanes](http://www.gong-jj.com/nhanes)

Cleaned and processed 1,222 files (3.2 GB) of NHANES healthcare data across 18 years into MongoDB. Identified the risk factors and prevalence of hospital utilization and four major diseases over time using qualitative and quantitative data.

- Implemented Random Forest and XGBoost in Scikit-learn to predict hospital utilization with an f1-score of 0.52.
- Visualized increasing prevalence of cancer and diabetes and constant prevalence of heart disease and chronic lung disease over time using ggplot2 and survey libraries in R.
- Identified age, gender, and blood pressure as common risk factors across the four major diseases.

**Supervised Learning (09/2018)** | Link: [www.gong-jj.com/sl/](http://www.gong-jj.com/sl/)

Analyzed Faulty Steel Plates and Phishing Websites datasets. Implemented Decision Trees, Boosting, Neural Networks, Support Vector Machines, and k-Nearest Neighbors using Weka and compared results.

- Evaluated bias and variance tradeoff (learning curve) and performed hyperparameter tuning (model complexity).
- Achieved 77.12% accuracy using Boosting with Decision Trees for Faulty Plates, an improvement of 7.97% versus SVM.
- Achieved 97.06% accuracy using k-NN for Phishing Websites, an improvement of 2.76% versus SVM.

**Unsupervised Learning and Dimensionality Reduction (11/2018)** | Link: [www.gong-jj.com/ul/](http://www.gong-jj.com/ul/)

Analyzed Breast Cancer and Faulty Steel Plates datasets. Implemented clustering (k-means and EM) and dimensionality reduction algorithms (PCA, ICA, RP, and Random Forest) for a Neural Network using Scikit-learn in Python.

- Determined optimal amount of clusters as k=7 for Breast Cancer and k=9 for Faulty Steel Plates datasets.
- Achieved similar accuracy (~71%) to benchmark NN using PCA and RP with 15 components on Faulty Plates dataset.
- Improved compute times using PCA and RP versus benchmark Neural Network when dimensions < 15.

**M.O.R.E: An Application for Career Path Exploration (02/2018 – 04/2018)** | Link: <http://bit.ly/more-appl>

Collaborated with team to design an interactive college major and career exploration and recommendation application. Cleaned and processed more than 15 million records and 280 columns from the 2012-2016 ACS 5-year PUMS data.

- Improved existing applications by using interactive exploration, more statistics, and similarity algorithm.
- Succeeded in changing 34% of participants' answers related to best major-career paths, 41% of participants' answers related to earnings for a major, and resulted in ~62% of users feeling more informed.
- Implemented front-end using jQuery, D3.js, and Bootstrap and back-end using a Python Flask app with a SQLite3 DB.

## WORK EXPERIENCE

**Associate Accountant (CA Certified Public Accountant License: #130384)**

Devereaux, Kuhner and Co. LLP | 07/2014 – 02/2017 | San Francisco, CA

Reviewed financial statements and financial data of various companies. Prepared federal and state income tax returns.

## SKILLS

**Machine Learning:** Regression, Classification, Clustering, Decision Trees, Random Forest, SVM, k-NN, Neural Networks

**Software and Programming Languages:** Python (Scikit-learn, SciPy, NumPy, Pandas, Matplotlib), R (dplyr, ggplot2), SQL (SQLite, MySQL), NoSQL (MongoDB), JavaScript (D3), Git, Jupyter Notebooks, Tableau, AWS, Weka, Excel