

# ZHUOQUAN CHEN

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LinkedIn: <https://www.linkedin.com/in/zhuoquanchen> | Portfolio: <https://zhuoquan-chen.github.io/portfolio> | GitHub: <https://github.com/ZhuoquanChen/Data-Science-Projects>

## EDUCATION

<b>General Assembly</b> Data Science Immersive Course	New York, NY Dec 2020
<b>Brooklyn College</b> BS. Computer Science	New York, NY Aug 2018 – May 2020
<b>Borough of Manhattan Community College</b> AS. Computer Science CUNY Research Scholars Program Scholarship	New York, NY Aug 2016 – May 2018 Aug 2017 – May 2018

## EXPERIENCE

<b>Borough of Manhattan Community College</b> <i>College Assistant, Financial Aid Department</i>	New York, NY Oct 2017 – Present
<ul style="list-style-type: none"><li>Worked for data entry, tracking, and management of more than 100,000 financial aid applications each academic year.</li><li>Used Python to clean and filter duplicate data and to ensure the names of students will not repeating appear on the calling list.</li></ul>	

## PROJECTS

### Sentiment Analysis & Classification

*Skills: NLP / CountVectorizer / Sampling / Naive Bayes / Logistic Regression / GridSearchCV / Confusing Matrix*

Used NLP technology that can immediately judge a customer whether satisfy a product or not with their sentiment analysis. It can greatly reduce manual judgment, thus saving lots of time and money for enterprises.

- Visualized the phrases base on key judgment results.
- Naive Bayes Model with 91.7% accuracy for new data.
- Logistic Regression Model with 94.7% accuracy for new data.

### Chest Disease Classification

*Skills: Residual Neural Network / CNNs / Transfer Learning / Drop out / Data Visualization*

Used transfer learning on the pre-trained ResNet (Residual Neural Network) model to automatically diagnose different types of chest diseases such as healthy, covid-19, bacterial pneumonia, and viral pneumonia through chest X-ray images.

- Model testing validation accuracy: 80% with 50 epochs.
- The model has weak performance at precision for covid-19 detection with 68% accuracy.
- The model has weak performance at precision for bacterial pneumonia with 55% accuracy.

### Stock Portfolio Analysis

*Skills: Covariance/ Normalization / Correlation Matrix / Data Visualization / Markov Chain Monte Carlo Simulation / Sharpe Ratio*

This project calculated the optimal weights of the portfolio by analyzing the stocks of Apple, Amazon, Facebook, Google, and Tesla in the past two years, which could have a maximum return with the lowest risk.

- The optimal distribution of the weights in 10,000 simulations: Apple (0.3638), Amazon (0.3377), Facebook (0.0309), Google (0.0063), Tesla (0.2613).

## SKILLS

**Data Processing:** data cleaning and data visualization, PCA, dimensionality reduction, feature engineering.

**Machine Learning:** classification model, regression model, clustering, NLP, Time Series Analysis, Neural Networks.

**Methods:** Statistical Distributions, Bayesian Analysis, p-Values, Hypothesis Testing.

**Programming Languages / Environment:** Python (Scikit-learn, Numpy, Pandas, Matplotlib, Seaborn, Plotly), SQL, Java, Jupyter Lab, Google Colab, PySpark.

**Multilingual:** Cantonese / Mandarin / English.

**Others:** Microsoft Office (Excel, Word, PowerPoint), Adobe (Photoshop, Illustrator).

## ACTIVITIES

**Deep Learning Team, BMCC** Sep 2019, New York, NY  
*Joined Professor Tang's Deep Learning team researching in CNNs including Neural Network, Softmax, SVM, Regularization, and Fully-connected Neural Network.*

**CUNY Hackathon 2019, BMCC** Nov 2019, New York, NY  
*My team's idea for this competition is to use CNNs to identify the distance and direction of nearby objects, so that blind people can know what is near them.*