

# ZHUOQUAN CHEN

718-300-0078 | Brooklyn, NY 11229 | [zhuoquan1223@gmail.com](mailto:zhuoquan1223@gmail.com)

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

## ABOUT

With an education in both computer science and data science, I believe that every problem has a solution and many more than one. With a design background, I believe more in the power of imagination and creativity, because everything starts with imagination before it becomes reality. As a data scientist with a diverse background, I like to think from different perspectives and use data science methods and models to help people make more informed decisions.

## EDUCATION

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

## EXPERIENCE

<b>BMCC</b>	<b>Manhattan, NY</b>
<i>College Assistant, Financial Aid Department</i>	Oct 2017 – Present
<ul style="list-style-type: none"><li>Worked for data entry of more than 100,000 financial aid applications data each academic year.</li><li>Provided Financial Aid counselors with specific data on the students they need.</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 / Data Visualization / PCA / APIs / Dimensionality Reduction / Feature Engineering.

**Machine Learning:** Classification Model / Regression Model / Clustering / NLP / Time Series Analysis / Neural Networks / CNNs.

**Methods:** Statistical Distributions / Bayesian Analysis / p-Values / Hypothesis Testing / Markov Chain Monte Carlo / Data Modeling.

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

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

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

## ACTIVITIES

<b>Deep Learning Team, BMCC, Manhattan, NY</b>	Sep 2019 – Jan 2020
Joined Professor Tang's Deep Learning team researching in CNNs including Neural Network, Softmax, SVM, Regularization, and Fully-connected Neural Network.	

<b>CUNY Hackathon 2019, Baruch, Manhattan, NY</b>	Nov 2019
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.	