

# DOUGLAS SILVERMAN

## SOFTWARE ENGINEER WEB DEVELOPER

### CONTACT

914-610-1418  
dpsilverman@umass.edu

### WEBSITE

<https://douglas-silverman.github.io>

### GitHub

<https://github.com/douglas-silverman>

### SKILLS

#### Programming Languages:

Python, Java, JavaScript, C

#### Machine Learning:

scikit-learn, numpy, pandas, matplotlib

#### Web-Development:

Vue.js, Angular.js, Node.js, MongoDB, Google Firebase

#### Software:

Visual Studio Code, git/GitHub, Eclipse

### More Info

Please visit my website and GitHub to find out more information about me and the projects I have done.

## EDUCATION

University of Massachusetts, Amherst  
B.S.in Computer Science & Mathematics  
GPA: 3.26  
Graduation Date: May 2021

## COURSEWORK

### Computer Science

Data Structures  
Algorithm Design and Analysis  
Web Programming  
Computer Graphics  
Artificial Intelligence  
Natural Language Processing  
Machine Learning

### Mathematics

Multivariate Calculus  
Linear Algebra  
Abstract Algebra  
Mathematical Modeling  
Combinatorics and Graph Theory  
Scientific Computing  
Statistics I and II

## EXPERIENCE

### Coach & Crew – Web Development Intern

*August 2019-March 2020*

- Created different web pages using Angular.js and bootstrap
- Helped team design the database using MongoDB
- Communicated smoothly over different time zones, mainly through email and Slack. Scheduled weekly meetings and had a slack channel to help troubleshoot

## PROJECTS

### Sentiment Analysis on COVID-19 Tweets

*September 2020 - December 2020*

This group project was to compare different classification methods for Sentiment Analysis. Having the best tool to understand the general public's stance during a crisis is important. The dataset consisted of 40,000 covid tweets from March and April of 2020. We used Python to iterate through a numpy array of the tweets and remove invalid characters like emojis. We used a TF-IDF vectorizer to convert a tweet into a feature vector of terms. We then trained Naive Bayes, Logistic Regression, Random Forests, and VADER from scikit-learn. Lastly, we evaluated the trained classifiers' performance on a test dataset and found the VADER and Logistic Regression performed the best.

### Analysis of Sports Betting Strategies

*March 2020 - October 2020*

With the interest in sports gambling continuing to rise, I wanted to analyze some betting strategies used by amateur gamblers. I created 5 models: Martingale and Oscar's Grind which reduce losses, Kelly Criterion that maximizes profit, and 2 Poisson Distribution models that predict winners of every game. The models were tested on 3 seasons of play across 3 different sports. The datasets were cleaned using Pandas and Python to normalize team names (some teams change cities) and to remove invalid entries. The results can be found on my website.