

# Caleb (Yong) Zhou

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## EDUCATION

**Boston University** (Graduated: Jan 2020)

Dec 2017 – Jan 2020

*Bachelor of Computer Science*

- Related courses: Applied **Java** in data structure, Algorithm, MySQL, Computer Programming, Tool of Data Science in **Python**, OOP system in **C++**, Full Stack Dev in **JavaScript**, Tool of Data Science in Pandas, NumPy, Kmeans, SVM

## EXPERIENCE

Software Development Intern, *AEVEX Aerospace*

May 2019 – Aug 2019

Tools: Python, TensorFlow, CNN, Deep Learning

- Extended Mask R-CNN model for the detection and segmentation on infrared images with fires for replacing helicopters detection by drone's detection that would reduce **50%** budget per month
- Outperformed **85%** overlay with ground truth on test data set and customized in collecting labeled samples and tune **R-CNN** parameters in improving classifier performance
- Implemented Python scripts to standardize input format of JSON file to fit the requirement of the model for the grand-truths

[Web Development Intern](#), *BCTC technology*

Sep 2017 – Jan 2018

Tools: **Node.js**, **Restful** API, MongoDB, JQuery.js, **ES6+**, Bootstrap, React.js, HTML, CSS, **Git**

- Implemented dynamic websites for real-estate agent using JavaScript and generated 4 Million in total growth per year by devising different techniques in server-side and client-side development
- Designed user login via third-party OAuth protocol by using passport.js library to look up user info, create profiles and decode cookies
- Created a MongoDB schema to save and query data and designed **Restful** API to exchange data between clients and database

[Undergraduate Researcher](#), *NSF*

Jun 2017 – Sep 2017

Tools: Python, RapidMiner, Machine Learning (Topic Modeling), Scikit-Learn, Excel

- Achieved data cleaning and business logic to derive customers and products departmental KPI
- Identified driving factors (customer purchase frequency, monetary decision, etc.) for downstream analysis and modeling for Customer churn statistics prediction
- Developed Cross-validation that outperformed the baseline model by **4%** to improve the supermarket decision making

## PROJECTS

[Healthy Tracking Application \(Android App\)](#) | Boston University

Nov 2019

Tools: Java, Google Fit API, Google Map API, **Redis**, **AWS** Lambda

- Designed a powerful **Android** app to record motion data and obtain friends' real-time location and health status
- Achieved real-time location update by utilizing AWS lambda, Redis, Google Map API and Android services
- Utilized Google Fit API to obtain users daily steps and calories and stored in Firebase and implement a chat room based on it

[Web Development on Shopping Cart](#) | Boston University

Sep - Nov 2018

Tools: Node.js, Stripe API, Handlebar.js, MongoDB, Express.js

- Designed and Created online shopping cart for our users to display, save, check out and make payments on products
- Applied and Implemented MVC principle to self-thought by researching and planning logically

[Data Analysis on Tesla Inc's Stock and Media](#) | Boston University

Dec - Nov 2018

Tools: **R**, Python, NLP, Shiny, AWS

- Evaluated effects of media sentiment on the predicted price of Tesla stock using regression analysis
- Delivered real-time insights to help beginners and professionals trade through Shiny app deployed on AWS

[Role-Playing Game \(C++\)](#)

Dec 2016

- Designed a zombies vs human role-playing video game with multiple files, classes and modules containing different functionalities
- Applied OOP principle to encapsulate functionalities and make implementation extensible and reusable

## SKILLS

- Framework: AWS, PowerShell, React.js, Linux,
- Programming: Java, Python, PHP, C++, Perl, Node.js, MySQL, React Native
- Database: MongoDB, MySQL, NoSQL, Redis, Hadoop, Spark
- Hobbies: Reading, Guitar player, Cooking