

# Zizhun Guo

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## EDUCATION

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**Rochester Institute of Technology** - Rochester, NY, USA

Expected **May 2021**

**Master of Science in Computer Science** GPA: 3.44

*Relevant Courses: Data Structures and Algorithms, Object-Oriented Programming (Java), Computer Science Theory, Web Service & Service Oriented Computing, Computer Graphics*

**Big Data Analytics Advanced Certificate** GPA 3.75

*Relevant Courses: Intro to Big Data, Big Data Analytics, Database System Implementation, Independent Study (Text Mining)*

**Master of Science in Game Design and Development** GPA: 3.28

Earned **May 2018**

*Relevant Courses: Game Development Processes, Gameplay Prototyping, Artificial Intelligence for Gameplay*

**Chengdu University of Information Technology** - Chengdu, SC, CHINA

Earned **Jun 2016**

Bachelor of Engineering in **Electronic and Information Engineering**

## RELEVANT EXPERIENCES

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**Object Detection Web Application for Traffic/Stop Signs (Python, Tensorflow, OpenCV, Flask, Nginx, Unicorn, AWS EC2)**

Feb 2021

- Built an end-to-end Restful Object Detection Web Application using YOLO V3 model that detects the object categories and bounding boxes given an image. It is a fork project regarding the degree Capstone Project
- Trained/Tested the YOLO model on the Stop/Traffic signs subset imported from Google Open Image v6 Dataset
- Adopted transfer learning method on the Darknet-53 backbone feature extractor and re-trained the last 15 layers
- Deployed the neural networks on AWS EC2 at <http://3.16.135.19/home>
- Employed WinSCP for SFTP and PuTTY for SSH connection

**Text Mining for Multiclass Classification based on Yelp User's Reviews (Python, Pandas, Sklearn, NLTK, Genism, Tensorflow, Matplotlib)**

Aug 2020 – Dec 2020

- Built a python program that detects the category of the restaurant where the user have visited based on its input text review in English
- Preprocessed the Yelp Dataset in Users' and Business' tables by indexing, joining, concatenating, removing stopwords, stemming and lemmatizing from JSON into CSV
- Extracted the word features by conducting TF-IDF, LDA, Embeddings (word2vec: SG & CBOW), Global Vectors(GloVe) textual models.
- Trained/Tested the Machine Learning models LR, SVM, MNB, RF and Neural Networks models like CNN (baseline) and RNN encoder-decoder in LSTM, GRU cells
- Achieved the accuracy to TrainSet 0.99 and ValidSet 0.95 for the CNN model
- Fine-tuned all models by conducting multiple strategies such as hyper-parameters grid search, feature engineering on structural features, feature concatenating with embeddings and regular features, and transfer learning using pretrained textual models

**Responsive Web Application Development (HTML, CSS, JS, Node, Express, EJS, Passport, MongoDB)**

May 2020 - Jul 2020

- Developed a local O2O Business Review website for offline gastronomy review service inspired by Airbnb Experience
- Employed HTML, CSS, JS with Bootstrap and Semantic UI frameworks for front-end page rendering
- Integrated NodeJS environment, Express server framework for back-end system design
- Implemented CRUD functions for creating and reviewing experience on MongoDB using Mongoose framework
- Implemented Users Signup/Login Authorization module using passportJS

**Data Analysis System Web Service (Python, Pandas, Sklearn, Flask)**

Mar 2020

- Built a RESTful web service data analysis system using classification and clustering algorithms on API's description crawled from ProgrammableWeb website
- Vectorized the web services' descriptions using three textual models TF-IDF, LDA and Word2Vec
- Implemented three classifiers including DT, NB and NN; two clustering models using KMeans and DBSCAN
- Evaluated the performances of classifiers using Accuracy, F1 Score and the clusterings Silhouette Coefficient

## CERTIFICATE

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**TensorFlow Developer Certificate** (issued by Google TensorFlow Certificate Program)

Jan 2021 – Jan 2024

**DeepLearning AI. Deep Learning Specialization** (issued by Coursera)

Jan 2021

## SKILLS

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**Python, Java, C/C++, C#, Pandas, Scikit-learn, TensorFlow, HTML, CSS, JS, JSON/XML, SQL, Git, Linux, AWS**

**Data Mining, Machine Learning, Natural Language Processing, Computer Vision**

LAST UPDATE: 3/29/2021