

Zhuocheng Shang

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EDUCATION

University of California, Riverside

M.S. in Computer Science, GPA: 3.67 /4.0

Sep. 2019 – Apr. 2021

Lindenwood University, St.Charles, Missouri

B.S. in Computer Science, GPA: 3.8 /4.0, Honors of Magna Cum Laude

Jun. 2015 – May 2019

RESEARCH INTERESTS

Natural Language Processing, Spatial Computing, Machine Learning

RESEARCH EXPERIENCE

NLP with Generating Spatial Data from Newspaper, UC Riverside

| *NLP, Machine Learning, Spatial Computing*

Sep. 2020 – Present

- Research project advised by professor Amr Magdy at computer science department.
- Extract Geo-Spatial information from newspaper related to COVID-19, using NLP techniques which developed with SVM and CNN.
- Apply text sentiment analysis (e.g. COVID-Twitter-BERT) over both newspaper and people's attitude.
- Study correlation between newspaper attitude navigation and people's social distancing behavior across counties in US.

Implementation of BGP Anomaly Detection Models, UC Riverside

| *Machine Learning, Network BGP*

Sep. 2020 – Present

- Implement one-class and supervised anomaly detection models, including One-Class SVM, SVDD, LSTM, Isolation Forest.
- Focus on collective anomaly detection with evaluating and comparing generalization error of each model.
- Develop and implement a novel model for anomaly detection that has improved generalizability between datasets.

Code Assistant for PSID Data Cleaning, UC Riverside

| *Python, STATA*

Aug. 2020 – Oct. 2020

- Code research assistant and reviewer for professor Lucie Kalousova at department of sociology.
- Cleaned the Panel Study of Income Dynamics data from 1989 to 2017 covering more than 3000 counties in United States. Reformatted data with multiple file formats in Python code.
- Applied Stata to match counties with missing or error information to construct a household income panel dataset over 30 years.

Riverside County Pesticides Web Application, UCR and Department of Agriculture

| *Java, SpringBoot, REST API, JavaScript, MySQL*

Jan 2020 – June 2020

- Engineered a Web Application with MySQL database, JavaScript, HTML and Java back end.
- This application allows agricultural departments to document pesticides records and faculty information.
- Parsed KML file with Leaflet API and visualized Riverside agriculture field layers on a web map.
- Overhauled SpringBoot framework to generate front requests, REST API and manage data with MySQL.

2D to 3D Road Network Visualization, UC Riverside

| *Spark, Big Data, OpenStreetMap*

Sep. 2019 – Dec. 2019

- Applied prototypes of visualization 3D road network on Google Earth Engine with generated KML.
- Combined OpenStreetMap 2D road data and DEM data through Spark RDD.
- Applied grid format to original data with GeoTrellis packages.
- Generated unlabeled points with Delaunay Triangulation Algorithm with surrounding points.

Youtube Makeup Video Popularity Analysis, UC Riverside

| *Data mining, Machine learning, Text sentiment*

Sep. 2019 – Dec. 2019

- Analysed correlation between YouTube video title, description, upload date and top comments with implemented Machine Learning algorithms: K-Nearest Neighbors, Decision Tree Classification and CNN.
- Crawled YouTube video data with title, description, upload date and top comments with Python
- Cleaned text data evaluated text data with numerical format through NLTK, bag of word and Tf-idf Vectorizer.

PROFESSIONAL EXPERIENCE

Full-Stack Development Intern

May. 2019 – Aug. 2019

XiaoQiao Technology Company

HangZhou, China

- Developed a Java web-application that allows tracking vehicle inspection records or scheduling vehicle inspection.
- Re-modeled and reconstructed the database design of the App.
- Established Java APIs using Java MVC Spring framework, including handling administration login page, updating vehicles data and modifying Database.
- Assembled Vue.js and ElementUI framework to program front-end, including connecting front-end modules with API interfaces.
- Tested the API interfaces through postman and also recorded corresponding API documents for the project.

Java Web Application Backend Intern

May. 2018 – Aug. 2018

ChengLian Technology Company

HangZhou, China

- Developed a web-application which applied for e-commerce allowing ordering, trading and managing membership.
- Re-modeled and reconstructed the database design of the App.
- Established **Java APIs** using **Java MVC Spring** framework, including updating, inserting, deleting and searching orders with **MySQL** database.
- Tested the API interfaces through **postman** and also recorded corresponding API documents for the project.

TECHNICAL SKILLS

Languages: Java, Python, SQL, JavaScript, HTML

Frameworks: Java MVC Spring, SpringBoot, React, Node.js, Flask

Developer Tools: Git, Docker, IntelliJ, VS Code