# Zhaoyi(Lucy) Guo

Proficient web developer with experience of building complex web applications; Data analyst with 5 years of experience in data cleaning, visualization, and statistical analysis using tools such as Python and SQL. Looking for full-time software development engineering job opportunities in fall 2023.

## EXPERIENCE

### Research Assistant: Web Development and Data Analysis Specialist, Interactive Neurorehabilitation Lab, USC, Los Angeles, CA — August 2022 - August2023

Lead the development of the interactive interfaces at INR, USC where we are working on a human-centric, explainable artificial intelligence system for evaluating stroke rehabilitation. Communicate closely with expert clinical therapists and team members to understand their unique requirements and to capture high-quality data. Developed responsive web applications using React and Material UI which allowed users to segment patients' movements and rate patients' movements. Improved the performance of the web application by creating reusable components.

Developed a RESTful API using Node.js and Express, which connect to the Swagger API and the Microsoft SQL Management Studio database. The API retrieves and processes data from the database and displays it to the front end. Implemented a caching mechanism to improve the response time and reduce the load on the database.

Maintained and optimized Microsoft SQL Management Studio databases for both segmentation and rating. Analyzed and extracted insights from the database using SQL and Python libraries such as Pandas and NumPy. Developed custom scripts to automate data analysis and generate reports on key metrics such as rating score, patients' impairments, and raters' feedback.

### Intern: Web Development and Data Analysis Specialist, Bosch Automotive Products Co., Ltd, Suzhou, China — August 2021 - December 2021

Worked in the department of Chassis Systems Control and under the team of Product Management.

Scraped data from Bosch's internal website, and used the data to build PowerBI KPI reports. With these reports, Product Managers can visualize projects and problems' status, and oversee unusual trends . All reports are up-to-date, and well-organized in MSTeams to promote easy access.

Solved the pain points of Bosch's long training process by building an online training system using PowerApps and PowerAutomate, which enables more functionalities and saves more time compared to the original training process. This online training system has been in use since Sept 2022.

### Intern: Data Analysis and Machine Learning Specialist, The Coca-Cola Company, Shanghai, China— June 2019 - September 2019

Collaborated with a team of six on FSE (Flawless Segmented Execution), a business framework that equips teams with data processing tools needed to identify optimal sales points in Beijing to maximize profitability.

Gathered and preprocessed large-scale datasets including geographical data, customer demographics and sales records. Utilized techniques such as feature engineering, dimensionality reduction, and model evaluation to enhance the accuracy and effectiveness of the predictive model. Collaborated with domain experts, and business stakeholders to interpret and validate the potential impact on revenue growth and cost optimization.

## PROJECTS

### Website for Artist Search — Multi-Version *Web Development*
May 2022 – June 2022

Led a website development project to create multiple versions of a web application using various languages and frameworks, including Python, Flask, Angular, TypeScript, Bootstrap, JavaScript, Node.js with Express.

Designed and developed the front-end of the web application using Angular and TypeScript, ensuring responsiveness, user-friendly interfaces, and efficient data handling. Integrated Bootstrap framework to enhance the visual design and user experience. Leveraged Android and Java to develop a mobile version of the website, optimizing it for Android devices and ensuring seamless user interaction. Utilized Node.js with Express to build a robust and scalable back-end for the web application, handling data storage, API integration, and server-side logic.

### Differential Gene Expression Analysis of Human Opioid Abusers— *Data Science*
January 2021 - March 2021

Obtained the opioid abusers and control's data from the NCBI Sequence Read Archive. Checked the data quality, and trimmed unnecessary sequences from the reads. Got gene expression counts, and performed various gene expression analysis. Presented genome-wide changes in midbrain gene expression associated with human opioid abuse. Identified specific gene networks which grouped genes similar in expression together. Learned that people who use opioid have greater gene expression variability than those who do not use them.

Los Angeles

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Github UCSD

Github USC

LinkedIn

Personal Website

## SKILLS

Proficient with frontend programming using HTML + CSS, Javascript(React), Java(Android), Typescript(Angular);

Experienced with backend programming with Node.js, Python, c++, and APIS like REST;

Proficient in working with JSON for data interchange between systems. Skilled in writing simple SQL queries to manipulate relational databases.

Familiar with Git to track changes, manage branches and collaborate with team members on software projects.

Extensive experience in building ML models, and extracting insights from data using Python;

## EDUCATION

**University of Southern California** — *Master of Science, Computer Science*

January 2022 - Present

**Coursework**: Programming System Design, Database Systems, Web Technologies, Analysis of Algorithms, Operating System

**GPA** 3.85

**University of California, San Diego** — *Bachelor of Science, Data Science*

September 2017 - June 2021

**Coursework**: Data Mining, Data Modeling, Data Visualization, Machine Learning, Statistical Data Analysis, Data Structures, Cognitive Science.

## AWARDS

Won Provost Honors 6 times at UCSD.

Ranked top 10% in the New York AirBnb Price Prediction Challenge on Kaggle.

Ranked top 20 and received scholarship in the PowerApps Hackathon at Bosch.