

# Ryan Zheng

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## EDUCATION

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Syracuse University, GPA:3.8/4	-- <i>Master of Computer Science</i>	Sep.2022 - May.2024
Harbin institution of technology	-- <i>Bachelor of Civil Engineering</i>	Sep.2016 - Jun.2020

## TECHNICAL SKILLS

**Programming Languages:** Python, Java, C/C++, Kotlin, SQL, HTML/CSS, JavaScript, TypeScript

**Frontend:** ReactJs, Redux, ExpressJS, NodeJS, NextJs, Flask, TailwindCSS, JQuery, Bootstrap, Restful API, Postman

**Backend :** MySQL, MongoDB, Firebase, Android Studio, NLTK, TensorFlow, PyTorch, Pandas, Git, Flutter, Sklearn, OpenCV, Matplotlib, Linux, XML, JSON, Haskell, VS Code, PyCharm, IntelliJ IDEA

## PROJECT EXPERIENCE

### Real Estate Ecommerce Web App (MongoDB, Express, React, Node)

- Implement **JWT**, **Cookies**, **Firebase**, **redux** and **Google OAuth** for secure and seamless user access.
- **CRUD** operations for property listings and user account using **MongoDB** and **Firebase**.
- Enhance the user experience with image uploads, property listing management, responsive web design.
- Implement cutting-edge search features to help users find what they're looking for.

### Face Recognition Flask App (Python, Flask, OpenCV)

- Change face dataset to 'eigen faces', then using **PCA** model to find principal components of face image.
- Train **SVM** machine learning model to find the best parameter, then using pickle to save the model.
- Create RESTful API in **Flask** and incorporate trained SVM models and preprocessing steps, to provide accurate predictions for user-uploaded photos in real-time.

### Twitter Clone Android App (Kotlin, Firebase)

- Allow users to make, delete, and search posts across various forums. Post including messages, locations (**Google Maps API**), and photos, with **Firebase** for data storage.
- Implemented features for users to leave comments on posts, friend adding and online chatting functionalities, enabling users to connect and communicate with each other in real-time.
- Receive recommend post in home page and receive recommend in video page, with the ability to play videos directly within the app for a seamless user experience.

### AI Chatbot (Transformer and LSTM model)

- Develop a **Python** implementation of a Transformer model using **NumPy**, featuring 6 encoder layers and 6 decoder layers for natural language processing tasks.
- Construct a user-friendly website using Flask framework, enabling interaction with the chatbot through both voice and text inputs. Compare to **LSTM** chatbot I built, **Transformer** chatbot superior in handling multilingual datasets and providing accurate response.

### Reddit Clone Web App (React, Redux, Node, Express, MongoDB)

- Enable users to create posts, engage in discussions through comments, and interact with posts by liking or disliking them. In profile, we can set our own social network links, skills, resume.
- Using **MongoDB**, **JWT**, **Bcrypt**, **Express-validator** to store and authenticate user information.
- Incorporate **CRUD** functionalities for managing user accounts, posts, and comments, along with a user-friendly dashboard for efficiently managing user information and posts.

### Hospital Database Management System (Microsoft SQL)

- Design a database with 21 table and design a descriptive E/R diagram, then normalize database into 3rd Normal Form and Eliminate potential integrity and security issue.
- Design views, stored **procedures**, user-defined **functions**, **triggers**, **transactions**, and **scripts** to manage patient records, staff information, inventory management, and other related data effectively.