Yu Liu

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EDUCATION

University of Southern California   **January 2022–December 2023**
Master of Science in Computer Science

Tianjin University   **August 2017–July 2021**
Bachelor of science in Software Engineering, GPA 3.68/4.00

SKILLS

- Language: Java, C++, SQL, JavaScript, Python, CSS, HTML
- Other: Node.js, Express, Spring-Boot, MongoDB, React, Vue, Linux, Django, Unity, Redis, Nginx, Heroku

EXPERIENCE

Software Developer, NeuEdu Educational Information Technologies Co., Ltd.   **April 2020–June 2020**
Python, Node.js, JavaScript, HTML, CSS, Django, Vue

- Collaborated with team members to accomplish the Knowledge Map and Forum System based on 'A Song of Ice and Fire'
- Cleaned crawling data and transformed into standard triples, transformed some triples by NLP processing
- Built back-end server and database of knowledge map based on Django and Apache Jena
- Constructed a forum system with Vue and Node.js to help users share and publish ideas

Assistant Researcher, Chinese Academy of Sciences   **January 2020–February 2020**
Python, TensorFlow, Flask

- Implemented a multimodal search engine with team members.
- Contributed and developed image recognition model and training process
- Created an inverted index of 1.7 million image data for training by carrying out the vectorization of picture and text

PROJECTS

Blog site (https://blog-ly.netlify.app**)**   **November 2021–December 2021**
JavaScript, Node.js, HTML, CSS, React, Heroku, Netlify

- Developed a blog site including user authentication, profiles, and forum posts
- Built an extensive backend API with Node.js & MongoDB with routes protected by JWT and tested with Postman
- Integrated React with backend and deployed frontend on Netlify and backend on Heroku

E-commerce Seckill System   **July 2021–August 2021**
Java, Spring Boot, MyBatis, Redis, Nginx, HTML, CSS, RocketMQ, Vue

- Accomplished a seckill system of e-commerce platform by Spring Boot and MyBatis framework based on frontend and backend separation mode
- Achieved seckill function by caching with Redis and asynchronous messaging with RocketMQ
- Optimized system performance by cache, lock and asynchronous method to make TPS around 650
- Used tokens and queue flooding to reduce crashing system risk caused by large numbers of accesses

Research Experience

Tracking and Recognition of Character Action in 3D Animation Video   **January 2021–June 2021**
Python, Torch, TensorFlow

- Designed and constructed a video-based 3D human pose estimation model
- Resolved timing problem brought by video by using a temporal convolution model with residual network structure
- Showed better performance than traditional RNN and LSTM network models on the basis of Human3.6M dataset

Activities

Chinese College Students Computer Design Competition   **July 2020–August 2020**
Python, C++

- Led two team members to participate in an autonomous race car competition and won national third prize
- Designed and implemented perception and decision-making system of car to realize its autonomous driving on simulated roads