

Zhou(Sophia) Liu

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Education

Northeastern University , Boston, MA	2021.9 – Current
• M.S. in Computer Science, <i>GPA: 4.0/4.0</i>	
Harvard University , Cambridge, MA	2019.9 – 2020.7
• Visiting Scholar at Institute for Quantitative Social Science	
Peking University , Beijing, China	2011.9 – 2021.7
• Ph.D. in Philosophy	
• B.A. in Philosophy and Economics	

Experience

China Biographical Database Project , Beijing, China	2020.9 – 2021.9
<i>Software Engineer, Part time</i>	
• Led data mining work of the team, solved biographical information extraction problem in ancient Chinese texts with NLP models and greatly improved work efficiency	
• Applied Bi-LSTM-CRF and BERT model with Pytorch on ancient Chinese local gazetteers for a NER task, trained with over 250k records on GPU(Google Colab) , gained F-score over 80% with 19 name entities	
• Developed the automatic tagging platform based on trained model with GUI in Python (tkinter) allowing for text input, automatic tagging and text output	
• Papers of related work accepted by <i>International Journal of Digital Humanities</i>	

Projects

Red Panda Camp Web Project | [WebLink](#) | [CodeLink](#)

- Implemented a full stack social network website for red panda fans posting, commenting and starring in **JavaScript** by **Express** framework with **MVC** architecture and deployed to **Heroku**
- Enabled login, author and post validation with **Express Middleware**; stored users, posts and reviews with **MongoDB/Atlas** and secured the website with **Mongo Sanitize**
- Called **Cloudinary API** to store images and **Mapbox API** to show the red panda location on the map

Social Blog Web Project | [WebLink](#) | [CodeLink](#)

- Implemented a full stack social network website with which users can post texts and images, comment and liked each other in **Python** by **Django** framework with **MVT** architecture and deployed to **Heroku**
- Enabled user registration with Django authentication form, implemented **CRUD** functionality with models and Django views, styled the website with **bootstrap** and stored the users and blogs with **SQLite**

Voice Powered Budget Tracker App | [WebLink](#) | [CodeLink](#)

- Implemented a budget tracker app to record income/expense by category and date using **React** framework, leveraged **Context API** to manage transactions, and stored records by **Local Storage**
- Supported interactive voice control by **Speechly** and deployed to **Netlify**

Linux Mini Shell Project | [CodeLink](#)

- Implemented a **linux** mini shell in C supporting exit, help, cd, pwd, history commands; other commands are forked as another process and executed by Linux
- Implemented keyboard short cuts with **signal handler**; enabled pipes with **inter process** communication

Technical Skills

- Programming Language: Python, Java, C, C++, JavaScript, Kotlin, R, SQL, Shell script(Linux)
- Framework and Tools: Spring Boot, React, Django, Flask, Node, Express, MongoDB, git
- Data Science: PyTorch, TensorFlow, Machine Learning, NLP (Transformer, BERT, GPT-3)

Related Courses

- Data Structure and Algorithms
- Object-Oriented Design
- Computer System
- Mobile Application Development
- Database Management