

Zhou(Sophia) Liu

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Objective

To obtain a **summer sde intern** position in 2022.

Experience

China Biographical Database Project, Beijing, China

2020.9 – 2021.9

Project Manager

- Led data mining work of the team and improved work efficiency by applying NLP models into original ancient Chinese for automatically extracting biographical information
- Applied Bi-LSTM-CRF and BERT model to Name Entity Recognition task in PyTorch for local gazetteers containing 250K+ records, trained on GPU(Google Colab) and gained out of sample F score over 80%
- Developed the automatic tagging platform based on trained model with GUI in Python (tkinter) allowing for text input, automatic tagging and text output; to be released as new functionality of Local Gazetteers Research Tools
- Papers of related work accepted by *International Journal of Digital Humanities*

Education

Northeastern University, Boston, MA

2021.9 – Current

- M.S. in Computer Science, *GPA: 4.0/4.0*

Harvard University, Cambridge, MA

2019.9 – 2020.7

- Visiting Scholar

Peking University, Beijing, China

2011.9 – 2021.7

- Ph.D. in Philosophy
- B.A. in Philosophy and Economics

Projects

PAN Card Detection Project | <https://zhouzhou-pancard.herokuapp.com/>

- Applied OpenCV module for pan card detection, calculated the structural similarity between original card and tampered card, and caught the contour on images for comparison
- Implemented a web application allowing for uploading the pan card picture and calculating the similarity in Python by Flask framework and deployed to Heroku for display and use

Social Blog Web Project | <https://zhouzhoublog.herokuapp.com/blog/>

- Implemented in Python by Django with well organized models, views, templates and admin site; deployed to Heroku for display and use
- Functionality includes user signing up, logging in and out; writing blogs with title, text and pictures; displaying recent blogs on home page and supporting likes and dislikes on each blog

Gobang Game | <https://zhouliupku.github.io/Gobang/UI/>

- Implemented a human-computer interaction Gobang game in JavaScript with neat web UI
- Designed the computer win strategy by assigning weighted score based on different possibility to win and choosing the cell with max score

Topic Modeling in Chinese Classics

- Applied LDA model to text clustering for Early Chinese classics in Python, formulated top words and summarized top topics featuring the variation across classical schools and dynasties
- Developed interactive web application in Python via PyWebIO for users to input literature title and get topics

Technical Skills

- Programming Language: Python, C++, Java, JavaScript, HTML5, CSS, R, SQL
- Fullstack Framework and Tools: Spring Boot, React, Django, Flask, Node.js, MyBatis, MongoDB, MySQL
- Data Science: PyTorch, TensorFlow, Machine Learning, NLP (Transformer, BERT, GPT-3), OpenCV

Related Courses

- Data Structure and Algorithms
- Object-Oriented Design
- Operating System
- Database Management System
- Machine Learning
- Natural Language Processing
- Web Development