Yikun Han

Beijing

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Education

Sichuan University **09 2019 – 06 2023**

Major in Information Resource Management - **Overall GPA 3.81/4.0 - Major GPA 3.95/4.0**

Relevant Courses

- Data Structure and Algorithm
- Analysis and Design of Information System
- Principle and Application of Database
- Computer Network and Application
- Information Analysis
- Web Programming Technology and Development
- The Foundation Programming of C
- Operation Research and Optimization Method

Publications

Detection of Metastatic Cancer on Lymph Node Sections with Deep Convolutional Neural Network | Pytorch

- MLBDBI 2021, **co-first author, accepted by an EI conference proceeding.**

Modelling and Publishing the Chinese Information Retrieval Lexicon with VocBench | SKOS

- DCMI 2021, **first author, accepted by the conference proceeding**.

Ontolex-based Knowledge Base for Information Retrieval | Ontolex

- **submitted to an CSSCI journal, second author.**

Project Experience

Research: Aasen's Algorithm for Solving Symmetric Matrix Functions **05 2022 – 11 2022**

- Aimed to optimize LAPACK function based on Kunpeng processor to provide high performance version.
- Implemented separate optimization for single threading and multi threading processes.

Research: Knowledge Base and Publication of Retrieval Language Terms **10 2021 – 01 2022**

- Aimed to develop a Chinese knowledge base for information retrieval to integrate into the Linked Open Data Cloud and further improve the theoretical system with Chinese elements and visions.
- Semantically processed lexical entries following the principles coined by Tim Burners-Lee, gave metadata encoding proposals for different cases, and deployed a mirror website of VocBench by using Java and Xshell.

Research: Semantically Modelling and Publishing Lexicon with VocBench **3 2021 – 10 2021**

- Modeled the lexicon using the Simple Knowledge Organization System and published it with a web platform that enables SPARQL semantic search possible by transforming tabular data into RDF metadata.
- Participated in the DCMI Virtual 2021 Student Forum and shared the research about Linked Data and Semantic Web in progress. (Only postgraduate students are invited in principle)

Research: Data Science and Big Data Analytics **02 2021 – 06 2021**

- Studied machine learning models, graph databases, statistical analysis, and implemented text translation and topic modeling respectively with LSTM and LDA.
- Classified images of tissues in histopathologic scans of lymph node sections using CNN in identifying metastatic ones and determining whether a patient has cancer or not.

Course: Analysis and Design of Information System **09 2021 – 01 2022**

- Implemented reader and bookshelf modules, and introduced a text-to-speech synthesis function by accessing the API of iFLYTEK for the front-end ebook reading system.
- Implemented ebook upload and list modules, and introduced the parsing function for the nested directory by improving the source code of epub library on GitHub for the back-end management system.
- Connected the front-end and back-end system and provided multilingual support.

Course: Information Analysis **06 2021 – 07 2021**

- Acquired data from China National Intellectual Property Administration, and completed data cleaning, data pre-processing, statistical inference.
- Adopted linear regression and random forest classification method respectively to analyze the correlation between the frequency of various types of citations on protection duration and validity.
- Conducted data visualization with Matplotlib and Seaborn and drew a relatively reasonable conclusion.

Professional Skills

Programming Language: Python, R, C, Java, Javascript, JavaScript, SQL
Computer Tools: MongoDB, Navicat, Postman, Xshell, Access, Latex, Axure RP
Linguistics: TOEFL 105, GRE 324 + 3.5

Competitions & Awards

MCM/ICM

01 2022 – 02 2022

- Responsible for the major part of **modelling and coding.**
- Invested in the effect of tree age on carbon sequestration using a logistic growth model.
- Estimated the ecological value by calculating double integrals in polar coordinates.

Honorable Mention, Mathematical and Interdisciplinary Contest in Modelling, 2022
Provincial Outstanding Prize, College Students' Innovative Entrepreneurial Training Plan Program
Second Prize, China College Students' 'Internet+' Innovation and Entrepreneurship Competition
Outstanding Student of Sichuan University, 2020-2021
Sichuan University Third Prize Scholarship, 2020-2021
Sichuan University Third Prize Scholarship, 2019-2020

Leadership

President, Sichuan University Index Association
Co-organizer, the 3rd PhD Thesis Indexing Competition, with Fudan University