

Shuting Cui

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EDUCATION

Washington University in St. Louis

expected May 2023

M.S. in Engineering Data Analytics and Statistics

Thesis: *Two Ways to Get Temporal Attributes' Embeddings for Schema Matching*

Advisor: Dr. Yixin Chen

Nankai University

2021

B.Eng. in Software Engineering

Thesis: *Multi-component Air Pollutant Composition Analysis Model Based on Neural Network*

Advisor: Dr. Maoqiang Xie

RESEARCH INTERESTS

General areas of machine learning and artificial intelligence, Clinical and healthcare data mining (time-series data analysis), Graph machine learning, Statistical computation

RESEARCH EXPERIENCE

Washington University in St. Louis, Department of Computer Science & Engineering

12/2021-Present

Research Assistant to Dr. Yixin Chen

Research Project: *Two Ways to Get Temporal Attributes' Embeddings for Schema Matching*

- Developed two different ways to generate fingerprints of time-series variables for schema matching:
- 1) Create tabular representations of both databases where individual observations are combined within adaptive time windows, and apply the method developed for static data
- 2) A multi-target recurrent neural network predicting known variables is used to embed time-series variables, the representations in functions-space are used as fingerprints for matching.

Nankai University, College of Software

12/2020-05/2021

Thesis Advisor: Dr. Maoqiang Xie

Senior Thesis: *Multi-component Air Pollutant Composition Analysis Model Based on Neural Network*

- Applied Median filter, S-G filter and baseline correction on original single-component spectral data and obtained characteristic peak for each component
- Synthesize data of multi-component air pollutants under a variety of mixed conditions as the input for the prediction model
- Developed a multi-component air pollutant composition analysis model based on neural network using the above preprocessed data

SOFTWARE DEVELOPMENT

Leader, "JinJi" WeChat Mini App Development

05-06/2020

3rd Prize of North China Division, WeChat Mini Apps Development Competition

A WeChat mini app for users to make skin management and schedule management was developed. With it, users could make schedule management, check current skin status, get recommended suitable skin care products according to current skin status and share skin care experience with other users. It used the skin analysis API developed by Megvii to recognize users' skin condition.

- Demand analysis
- Overall design of skin management module
- Implementation of all the back-end functions and design of all user interfaces in the skin management part

Online Course & Teaching Platform of "Xia Jia Er" Arts Education Group

07-08/2019

The platform is divided into courses management end, courses shop (WeChat mini app) and web-end online

courses live streaming platform. The platform was put into use by “Xia Jia Er” Arts Education Group in 2019.

- Demand communication with “Xia Jia Er” Arts Education Group and demand analysis
- Writing of documents: project mind maps, user stories and users’ manual
- Overall database UML diagram design
- Courses management end: realization of course addition function and courses management homepage
- Students’ homepage realization in the WeChat mini app
- Web-end live: realization of equipment check and setting in both teacher and student end

Leader, “Zhifou” Campus BBS Website Development

06-07/2019

A web forum for campus life sharing.

- Implementation of all front-end pages (using Vue.js framework)

“Yu Ban” Chinese Study & Social Network APP Development

02-05/2019

An APP used for Chinese study and social network between Chinese and international students was developed for international students in NanKai University based on Android Studio. It was awarded the bronze prize by the College Students’ “Internet +” Innovation and Entrepreneurship Competition.

- User Interface design
- Implementation of login page
- Implementation of dictionary lookup function

INTERNSHIPS

Beijing Century TAL Education Technology Co., Ltd

06-09/2020

- Programs: CSR program; Kwai-Analysis of Live Streaming Consumer Behavior; Impact of Covid-19 on Catering Industry and Address on Work Resumption
- Dealt with data on advertisement modeling, conducted user portrait and business data analysis

Product Department of Smart Medical Industry, Beijing Yonyou Technology Co., Ltd

01-02/2020

- Participated in the video training on intelligent medical products R&D knowledge, the usage of tools like Yonyou NC
- Participated in the summing-up meeting of the department and visited the internet development history hall

ACTIVITIES & VOLUNTEERING EXPERIENCES

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| Volunteer in the New Year’s Celebration held in Jinnan Nursing Home, Tianjin | 01/2018 |
| Lute Performer in the show held by Nankai University Traditional Instruments Orchestra | 12/2017&06/2018 |
| Yoga and Latin performer in Nankai Sports Performance | 12/2017&05/2018 |
| Participant in “Army Dream” Micro Film Shooting | 10/2017 |
| Volunteer in “Love Package” Public welfare Donation | 10/2017 |
| Lute Solo in the Welcome Party of Zhou Enlai School of Government, Nankai University | 09/2017 |

HONORS & AWARDS

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| Successful Participant, MCM/ICM | 2018 |
| Bronze Prize, Internet+ | 2019 |
| 3rd Prize of North China Division, WeChat Mini Apps Development Competition | 2020 |

SKILLS

Computer Languages: C, C++, JAVA, Python, R
Machine Learning Framework: PyTorch, TensorFlow
Front-end Technology: html, css, JavaScript, vue.js, wxml, wxs
Back-end Technology: Django
Other Tools: Game Development of QT, WeChat Mini App Development, Cloud Application of Amazon AWS, Docker, MATLAB, Latex, Stata, MySQL, GitHub, Android Studio