Luzhe Sun

Data Science/ Computer Science

⌂ Chicago,IL   ◉ Tllokn   in Luzhe Sun   ✉ luzhesun@uchicago.edu   ☎ 415-624-9802

PUBLICATIONS

"DECOMPOSITIONAL QUANTUM GRAPH NEURAL NETWORK" Link

Xing Ai, Zhihong Zhang, Luzhe Sun, Junchi Yan, Edwin Hancock

RESEARCH EXPERIENCE

DIRECTED ACYCLIC GRAPH LEARNING | RESEARCH ASSISTANT

Advisor: Bryon Aragam | Assistant Professor, Booth School of Business at the University of Chicago

→ Use marginal normalization flow to predict distribution of single vertex
→ Use GAN to distinguish the mimic data by normalization flow and real distribution

DEEP MULTI-FIDELITY GAUSSIAN PROCESS | MAIN RESEARCHER

Advisor: Guang Lin | Director, Data Science Consulting Service | Associate Professor, Purdue University

→ Combine deep neural network methods with multi-dimensional Gaussian process to improve the Co-Kriging method.
→ Construct the multi-fidelity deep Gaussian process prediction framework.
→ Modify the network structure and loss function, and improve the R2 score of the prediction result from a negative number to 0.61.

QUANTUM GRAPH NEURAL NETWORK | RESEARCH ASSISTANT

Advisor: Zhihong Zhang | Associate Professor, Xiamen University

→ Construct and adjust the quantum bit circuit; Test the impact of different circuit structures on the mutag dataset.
→ Reconstruct the pooling layer of quantum graph neural network and develop subgraph cutting method to process graph on quantum framework.
→ Redesign the encode layer. Increase the accuracy from 0.62 to 0.91.

SELECTED PROJECTS

POCKET BOOK | SWIFT (2022) LINK

→ iOS expense software developed by Xcode-SwiftUI, used to record income and expenditure, date, and classification, etc.
→ Analyze user income and expenditure, sort and visualize consumption categories.

JOB SEEKING DATABASE | SQL, PYTHON, HTML (2022) LINK

→ Construct a Hiring-Applying database system with SQLite
→ Build a website to enable users to query and modify visually

DATA SCIENCE PROJECT | PYTHON (2022) LINK

→ Numpy Decision Tree, Numpy CNN(CIFAR-10), Numpy Soft Margin SVM
→ Implement Skip List, Bloom Filters, Interval Tree, Local Search, R-Tree

LITE MALL | JAVA, SPRINGBOOT (2019) LINK

→ An online mall constructed by Java SpringBoot, including front-end and back-end
→ Provide completed design diagram document and code.

AI TRAVEL ASSISTANT | SWIFT, PYTHON (2019) LINK

→ Image recognition based attraction introduction, photo recognition text translation
→ Restaurant and accommodation recommendations and rating system

EDUCATION

UNIVERSITY OF CHICAGO

MASTER PROGRAM IN COMPUTER SCIENCE

Sep 2021 - Mar 2023(Expected)

Physical Sciences Division

Current GPA: 3.77 / 4.00

Discrete Math(A)

Algorithm(A)

Machine Learning(A)

Advanced Algorithm(A-)

XIAMEN UNIVERSITY

BACHELOR OF SOFTWARE ENGINEERING

Sep 2017 - Jul 2021

School of Informatics

Overall GPA: 3.74 / 4.00

Major GPA: 3.92 / 4.00

SKILLS

PROGRAMMING

Proficient:
Python • LaTeX • SQL

Experienced:
Java • Swift • C++

Familiar:
HTML • CSS • Assembly • XML

CODING FRAMEWORKS

PyTorch • TensorFlow • SpringBoot • Qpanda

TOOLS/PLATFORMS

Git • Xcode • MATLAB • Navicat • Unity • Postman

HONORS/AWARDS

•**China National Scholarship(2020)**
•**China National Scholarship(2019)**
•**National Second Prize of China Undergraduate Mathematical Contest in Modeling(2019)**
•**National Third Prize of China Students Service Outsourcing Competition(2019)**