

Luzhe Sun

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EDUCATION BACKGROUND

University of Chicago

Master Program in Computer Science

GPA: 3.77/4.00, Core Course: Discrete Math(A) Algorithm(A) Machine Learning(A) Advanced Data Analysis(A)

Chicago, US

Sept 2021 - Mar 2023(expected)

Xiamen University

Bachelor of Software Engineering

Overall GPA: 3.74/4.00 Top:4/125 Major GPA: 3.92/4.00

Xiamen, China

Sept 2017 - Jul 2021

PUBLICATIONS

- Xing Ai, **Luzhe Sun**, Junchi Yan, Zhihong Zhang and Edwin Hancock **Decompositional Quantum Graph Neural Network** (Posted to TPAMI, Under Review)
- **Luzhe Sun***, Takuma Yoneda*, Matthew R. Walter, Ge Yang, and Bradly Stadie **Generative Expert Guidance for Shared Autonomy** (In preparation for RSS 2023)

RESEARCH EXPERIENCE

Shared Autonomy on Robotics Trajectory — Research Assistant

Jun 2022-Present

Advisor: Matthew R. Walter — Director, Robot Intelligence through Perception Laboratory at TTIC

- Trajectory generation with Diffusion Models for robotics applications
- Learned an assistive policy with Diffusion Models that can intervene user input only when necessary
- Shrank noise level over observation and action to preserve user intention in different level

Directed Acyclic Graph Learning — Research Assistant

March 2022 - Jun 2022

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

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

Deep Multi-Fidelity Gaussian Process — Research Assistant

Jun 2020 - Dec 2020

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

- Trained dual Gaussians kernel to extract connections between high and low fidelity data
- Constructed the multi-fidelity deep Gaussian process prediction framework
- Modified the network structure and loss function, and improved the R2 score of the prediction result from a negative number to 0.61

National Grid PUE Prediction Based on Massive Data — Research Assistant

Feb 2020 - May 2020

Advisor: Zhihong Zhang — Associate Professor, **Xiamen University**

- Used LSTM framework to predict PUE value from serialized data with an accuracy rate of 0.98.
- Used reinforcement learning to provide equipment adjustment plans with a predictive PUE.

Quantum Graph Neural Network — Research Assistant

Jun 2019 - Jan 2020

Advisor: Zhihong Zhang — Associate Professor, **Xiamen University**

- Constructed and adjusted the quantum bit circuit; Tested the impact of different circuit structures on the mutag dataset
- Reconstructed the pooling layer of quantum graph neural network and develop subgraph cutting method to process graph on quantum framework
- Redesigned the encode layer. Increased the accuracy from 0.62 to 0.91

AWARDS & ACHIEVEMENTS

- Outstanding Graduates Student, Xiamen University 2021
- **National Scholarship** (Top 0.2% nationwide), Chinese Ministry of Education 2020
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- **National Second Prize** for China Undergraduate Mathematical Contest in Modeling 2019
- **National Third Prize** for China Students Service Outsourcing Competition 2019
- Huang Xilie Scholarship of Xiamen University in 2019 (2/200) 2019
- The First Prize Scholarship, Xiamen University 2018
- Xiamen University Social Work Scholarship 2018

SKILLS

- **Language:** Mandarin Chinese (Native), English (Proficient)
- **Programming:** Python, C/C++, SQL, Java, Assembly, HTML, CSS
- **Coding Frameworks:** PyTorch, TensorFlow, SpringBoot, Quantum Computing
- **Tools/Platform:** Git, Docker, Xcode, MATLAB, Navicat, Unity, Postman

LEADERSHIP EXPERIENCE

- Student Union, Software School — Vice President Jun 2018 - Oct 2019
- Publicity Center, Software School — Center Leader Jun 2018 - Oct 2019
- Debate Team, Software School — Team Leader May 2018 - Jun 2019
- Class Three of Software School (Undergraduates of 2017) — Monitor Oct 2017 - Jun 2021

VOLUNTEER EXPERIENCE

4th China "Internet +" College Students Innovation and Entrepreneurship Competition

Leader of Volunteers in Computer Science Department 2019

- Coordinated the layout of the venue. Determined statistics and on-site scheduling of branch venues.
- Assisted the IT department of the competition in providing information technology support.
- Adjusted the hardware equipment of the competition. Volunteer hours are over 100 hours.

Xiamen University "Deep Love for Medicine"

Volunteer Activity Sponsor 2018

- Communicated with the hospital to manage the schedule and labor for 28 volunteers.
- Helped patients to go through the registration, reimbursement and payment process faster and easier.
- Proposed improvement plan for hospital signage.