Shuzhen Zhang

Phone number: (+1) 2177215819
Email: shuzhen2@illinois.edu
Github link: https://github.com/muhualiushui

Education

University of Illinois Urbana-Champaign Jan.2022 – Present
B.S in Mathematics, and Statistics: GPA 3.93 *Champaign, IL*

- **Mathematics&Statistics Courses:** MATH241 Calculus III(A) , STAT400 Probability and Statistics I(A), STAT410 Probability and Statistics II(A), MATH444 Elementary Real Analyze(pending), STAT425 Statistic Modeling I(pending)
- **Computer Science courses:** CS225 Data Structure(A), CS357 Numerical Method(A), CS446 Machine Learning(pending)
- **Honor:** Dean's List(Spring 2022)

Stony Brook University Sep.2019 — May.2021
B.S in Mathematic: GPA 3.24 *Long Island, NY*

- **Mathmetics Courses**: AMS210 linear algebra(A)

Skills

- **Advance Statistical Analysis:**R(dplyr, ggplot2, tidyr)
- **Programming Languages**: Python(Numpy, Pandas, PyTorch, Matplotlib), HTML , C++, java, overleaf, Matlab

Research Experience

Illinois Geometry Lab - Quantum Circuit & **Quantum Machine Learning II** Jan.2023-present
Research Assistant *Champaign, IL*

- Acquired a deep understanding of linear algebra and group theory in quantum information theory
- Conducted extensive analysis of quantum gates and circuits, exploring their behavior and properties
- Investigated the application of quantum information theory in machine learning, specifically exploring the potential of quantum circuits in enhancing the performance
- Present experiments and simulations to validate the proposed models and algorithms.
- Responsible finding results, which contributes to the quantum study, and providing high-value presentation with result

Projects

World Flight Data Construction: (December 2022).Tech: C++
Class project & Team leader *Champaign, IL*

- collaborating with two different teammates to construct a World Flight map by hard coding and to collect data from Internet as the input
- Determine the importance of different airports by the PageRank algorithm, and find the optimal path between two airports by the Dijkstra Algorithm
- Present the results and visualization in an easy-to-understand format for a non-professional audience.

Maze Analyze: (November 2022).Tech: C++
Class project *Champaign, IL*

- Creating a random maze of a specified size through hard coding based on graph of trees
- Construct an optimal solution using the BFS algorithm and record the time for construction and solving
- Optimizing the algorithm to reduce time, outputting the optimal solution path, and visualizing entire Maze with solution.

Activity & Honors

Global Business Internship Program: Jul.13—Jul.20,2017
Intern & Team Leader *HK, China*

- Cooperated with 6 team members and completed over 100 hours of practical training at Prudential
- Learned the history of financial and 'game theory'
- Studied insurance products, financial planning, and business etiquette
- Rewarded the Champion Team at the Enterprise Strategy Management Competition