

Mengfan Gong

mengfan.gong@dukekunshan.edu.cn | +86-18615568026 | Xingang Road, Jinan, Shandong, China

EDUCATION

Duke Kunshan University

Bachelor of Science in Applied Mathematics and Computational Science/Math

GPA: 3.714/4.0

Honors: 2022 Fall Dean's List of Duke Kunshan University

Kunshan, China

Expected Jun.2023

Duke University

Exchange Student

Durham, NC

Aug.-Dec.2022

PROFESSIONAL EXPERIENCES

Nanjing Skytech Enterprise Taxation Co., Ltd

Data Processing Intern

Nanjing, China

Jun.2022-Aug.2022

- Corrected data errors in the company's financial system, classified and organized various types of data in MySQL.
- Visualized data according to the needs of different customers to complete corresponding information sorting.

Sunac China Holdings Limited(Shandong)

Financial Statistics Intern

Jinan, China

Jul.-Aug.2021

- Collected internal financial data; investigated, organized and analyzed the information of various financial operations, thus providing statistical information and advice, managing and supervising financial trends.
- Analyzed the data of the company's annual reports by R and python, predicted the data of the coming year.

China Financial Futures Exchange

Data Processing Intern(Remote)

Jinan, China

Jun.2020-Jul.2021

- Created a daily market commentary on the foreign exchange market, analyzing the various political and economic factors that influenced the movement of currency pairs.
- Analyzed specific economic indicators, their impact on the foreign exchange market, and the interrelationship between the indicators.

RESEARCH EXPERIENCES

The Establishment of Global Equity Model and The Vision of Outer Space Resource Allocation

Researcher/Initiator

Durham, NC

Sept.2022-Now

- Utilized multidimensional data to measure the global equity coefficient GFC of each country, based on the AHM-CRITIC-TOPSIS coupled evaluation model; took advantage of hierarchical clustering to divide the countries and allocated the corresponding mineral resources.
- Defined global equity, analyzed national asteroid mining allocations and the impact of changes in the mining sector, and proposed mining equity policies.

Research of Code Implementation and Economic Application on Zonal Polynomials: Algorithm Implementation in Zonal Polynomial Calculation

Researcher/Initiator

Kunshan, China

Jan.-Jul.2021, Jul-Aug2022

- Completed the code package for computing the product of ribbon polynomials on the SageMath platform.
- Reviewed applications of the product of regional polynomials in finance and economics, identified examples of applications where the product of polynomials was used as an indicator, and used these examples as suitable data sets to test and improve the completed code.

ODE System Research - The Pendulum with Constant and with Time-Periodic Forcing

Research Assistant

Kunshan, China

Sept.-Dec.2020

- Conducted an analytical study of the dynamic characteristics of Josephson junctions driven by DC and AC and numerical analysis focusing on the resistive-capacitive parallel junction model of Josephson junctions driven by AC.

Research on Optimization and Shortest Path Planning Model of Kunshan Take-out System

Research Assistant

Kunshan, China

Sept.-Dec.2020

- Created a model to optimize food delivery strategy and the simulated potential results; abstracted locations of restaurants and customers into an undirected map; transformed optimal distribution problem into a shortest path one.
- Implemented the Floyd-Warshall algorithm to solve the shortest path problem, the permutation method to find the optimal solution, and the Monte Carlo simulations to validate the proposed model.

MATH COMPETITION EXPERIENCES

2022 Interdisciplinary Contest In Modeling(ICM)

Team Leader and Finalist Award Winner(0.19%)

2021 Interdisciplinary Contest In Modeling(ICM)

2021 China Undergraduate Mathematical Contest in Modeling

SKILLS AND HONORS

2022 Interdisciplinary Contest In Modeling Finalist Award Winner(Top 0.19%)

Computing Skills: Python, Java, R, MatLab, Mathematica, MySQL, SageMath, Overleaf, Texstudio, LaTeX, Microsoft office(Excel, Word, Outlook, PowerPoint), AutoCAD, Pro/E

Hobbies and Interests: Certified Open Water Diver and Enriched Air Diver, Liu-chin, Zhongruan (Chinese Ruan)