

Guowang ZENG

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EDUCATIONAL BACKGROUND

Duke University	Durham, US
Master of Engineering in Electrical and Computer Engineering (Software Development Track)	08/2022-05/2024
<ul style="list-style-type: none">GPA: 3.83/4; Scholarship recipient (20% of tuition fee) for the first academic yearRelevant courses: Fundamentals of Computer Systems and Engineering (A), Programming, Data Structures, and Algorithms in C++	
LUISS University (Top 2 Private University in Italy)	Rome, Italy
Bachelor of Science in Management and Computer Science	09/2018-11/2021
<ul style="list-style-type: none">GPA: 109/110 (3.77/4); Full scholarship recipient (Including accommodation fee) in 3 consecutive yearsRelevant courses: Algorithms (A+), Databases & Big Data (A+), Microeconomics (A+), Macroeconomics (A+), Data Analysis for Business (A+), Statistics (A+), Mathematical Finance (A+), Artificial Intelligence and Machine Learning (A), Fundamentals of Management (A), Quantitative Models for Data Science (A), Introduction to Computer Programming (A)	

ACADEMIC EXPERIENCE

- Publications:** The volatility spillover effect of the European Union (EU) carbon financial market, **Journal of Cleaner Production 2020** (Impact Factor: 7.246) [Stata]

INTERSHIP EXPERIENCE

Bank of Beijing Fintech	Beijing, China
Artificial Intelligence Developer intern [Python & Docker]	04/2022-07/2022
<ul style="list-style-type: none">Collected user text data with intelligence robot assistant from application API. Constructed various Natural language processing (NLP) algorithm models, parameters tuning and uploaded them to the Docker warehouse to help the project.Scrapped hundreds of pages of data from Beijing Municipal Health Commission with a Scrapy framework into database.	
Kantar TNS	Rome, Italy
Data analytics intern [Python & Excel]	06/2020-09/2020
<ul style="list-style-type: none">Consulted for consumer and retail companies, providing professional data analytics services with Python toolkits. Identified optimal product portfolios and market shares, improving business performance by 87% and program efficiency by 30%.Constructed comprehensive data visualization reports for clients, demonstrating strong leadership and involvement in successful project delivery. Resulted in high levels of satisfaction and positive feedback from clients.	

LEADERSHIP & INVOLVEMENT

Duke Kunshan University (DKU)	Kunshan, China
SATS 101 (Introduction to Applied Statistical Methods) Teaching Assistant [Software R]	08/2022-10/2022
<ul style="list-style-type: none">Answered statistical questions and the syntax error of R for undergraduate students with daily office hours per weekAssisted professors in grading undergraduate assignments and exams. Taught and guided them for ambiguous questions	

PROJECT EXPERIENCE

Duke University	Kunshan, China
Malloc Library, Dynamic Memory Allocation Tool, Thread-safe Malloc [C/C++]	01/2023-03/2023
<ul style="list-style-type: none">Implemented the malloc library with both first-fit and best-fit methods using system calls sbrk() and organizing memory space using an implicit linked list. Optimized by maintaining explicit linked list, accelerating original speed by 420%Optimized multi-threaded parallel operation by implementing Thread Local Storage (TLS) to ensure thread safety, resulting in up to 7 times faster performance improvement compared to using mutexes for synchronization.	
Battleship Game [Java]	01/2023-03/2022
<ul style="list-style-type: none">Created a text-based Battleship game in Java, following S.O.L.I.D principles and design patterns like Abstract Factory and Chain of Responsibility. Achieved 100% test coverage with JUnit and used GitLab for incremental development.Implemented 22 Java classes, Utilized Abstraction, Interface, and Inheritance for maintainability and flexibility, and conducted unit testing and version control for quality assurance during incremental development with GitLab.	
Word selection and page turning program [C/C++]	08/2022-12/2022
<ul style="list-style-type: none">Utilized C programming skills to debug a program, ensuring program compliance and prompt errors. Implemented data storage with structs and pointers, dynamic allocation, and memory leak checking with Valgrind. Work completed in SSH.Developed a range of algorithms for strings, arrays, linked lists, binary trees, queues, and stacks. Utilized BFS and DFS to calculate layer numbers and optimal solutions. Employed Git commands for version control during development.	
LUISS University	Rome, Italy
Big data analytics of player's information of European Cup [SQL]	09/2019-12/2019
<ul style="list-style-type: none">Successfully imported, cleaned, and categorized a large soccer player dataset from Github using various dimensions (age, height etc.). Leveraged MySQL, MongoDB, and Spark to efficiently process the data and derive meaningful insights.	

ADDITIONAL INFORMATION

- Languages:** Chinese Mandarin (Native), English (Proficient), Italian (Intermediate)
- Skills:** Mastered in ChatGPT, C/C++, Python, Java, Software R, SQL database, UML Diagram, Markdown, Stata, LaTeX
- Certificates:** TOEFL: 111(23), European Computer Driving License (ECDL/ICDL), Google Analytics Certification, Programming Fundamentals by Duke University (Coursera), Introduction to Data Science in Python by UMich (Coursera), Entrepreneurship by UPenn (Coursera)