Guowang (Tom) ZENG

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EDUCATIONAL BACKGROUND

Duke University **Durham, US**
Master of Engineering in *Computer Engineering (Software Development Track)* 08/2022-05/2024

- **GPA: 3.83/4; Scholarship recipient** (20% of tuition fee) for the first academic year
- **Relevant courses:** Fundamentals of Computer Systems and Engineering (A), Software Engineering (A)

LUISS University (Top 2 Private University in Italy) **Rome, Italy**
Bachelor of Science in *Management and Computer Science* 09/2018-11/2021

- **GPA: 109/110 (3.77/4); Full scholarship recipient** (Including accommodation fee) **in 3 consecutive years**
- **Relevant courses:** Algorithms (A+), Databases & Big Data (A+), Statistics (A+), Artificial Intelligence and Machine Learning (A), Quantitative Models for Data Science (A), Introduction to Computer Programming (A)

SKILL

- Programming Language: **C/C++**, **Python**, **Java,** Software R**,** Verilog**,** Stata.
- Tools: **ChatGPT**, **Git**, **Vim**, **Linux**, **Markdown**, UML Diagram, SQL database, Docker, Django, HTML/CSS, Valgrind.

INTERSHIP EXPERIENCE

Mevion Medical Systems **Boston, US**
Software Engineer intern *[C++]* 05/2023-08/2023

- Enhanced the Room 3D View features in Path planning and facilitated seamless navigation on the hand panel.
- Addressed and developed display issues, improved user experience, and ensured safe movement of the treatment bed. Researched collision detection techniques collaborated cross-functionally and implemented effective solutions.

Bank of Beijing Fintech **Beijing, China**
Artificial Intelligence Developer intern *[Python & Docker]* **04/2022-07/2022**

- 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

- 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 University **Durham, US**
SATS 101 (Introduction to Applied Statistical Methods) Teaching Assistant *[Software R]* 08/2022-10/2022

- Answered statistical questions and the syntax error of R for undergraduate students with daily office hours per week.
- Assisted professors in grading undergraduate assignments and exams. Taught and guided them for ambiguous questions.

PROJECT EXPERIENCE

Duke University **Durham, US**
Malloc Library, Dynamic Memory Allocation Tool, Thread-safe Malloc *[C/C++]* 01/2023-03/2023

- 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]* 01/2023-03/2023

- 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.

Text-Based Game Development Framework *[C/C++]* 08/2022-12/2022

- 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.

ADDITIONAL INFORMATION

- **Languages:** Chinese Mandarin (Native), English (Proficient), Italian (Intermediate)
- **Certificates: GRE: 335(4)**, **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)