Zackaria Mamdouh

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Computer Science graduate poised to excel in a Software Engineering role, bringing a robust foundation in Java, Python, and web development. Eager to apply a passion for creating innovative software solutions to a forward-thinking tech environment, in an Agile environment.

Education

CUNY Queens College, Flushing, New York Class of 2024
Bachelor of Arts in Computer Science, Minor in Biology
Clubs: Member of Code Resolve QC and Code For All QC

Technical Skills

Programming Languages: Java, C++, C, Python, TSQL, MySQL, PostgreSQL, MongoDB(NOSQL),
Web Development: HTML, CSS, Tailwind, JavaScript, TypeScript, React, Next.js, Vue, Vite
Tools & Technologies: Git, AWS, Spring Boot, Spring Cloud, Oracle Cloud, Google Cloud, Node.js, Express.js
GitHub: github.com/jumpshot7
LinkedIn: Zackaria Mamdouh | LinkedIn

Projects

Queens College Coffee Roastery Website

- Engineered a responsive and engaging front-end for "Queens College Coffee Roastery" using HTML, CSS, and JavaScript, focused on user interface design for a locally hosted web platform.
- Addressed challenges in optimizing load times and resource management, improving the local hosting environment's efficiency and user interaction responsiveness by 10%.

Pokémon Java Data Base Connectivity

- Led a team in a three-database integration project, successfully managing over 1,000 Pokémon entries and improving data retrieval efficiency by 40%. Established JDBC connections to manage and manipulate complex data sets.
- Crafted advanced SQL queries utilizing Common Table Expressions (CTEs), aggregate functions, and cross-database joins to perform intricate data analysis and retrieval, enhancing the query efficiency and data accessibility.

AI Strategies in Pac-Man Simulation

- Developed AI strategies for Pac-Man, improving the algorithm's success rate by 35% in navigating mazes compared to traditional methods, focusing on informed state-space search, multi-agent interactions, and reinforcement learning.
- Engineered solutions for navigating complex mazes and decision-making processes, implementing depth-first, breadth-first, uniform cost, and A* search algorithms, enhancing the Pac-Man agent's performance in a dynamic and competitive environment.

Job Scheduling Algorithms Comparative Analysis

- Executed a comparative study of 5 major job scheduling algorithms, identifying a 20% improvement in resource allocation efficiency in the best-performing algorithm, demonstrating proficiency in algorithm optimization and performance analysis.
- Designed and executed a test suite that generated random job sets, assessing algorithmic efficiency through metrics such as turnaround time and throughput.

Work Experience

The Child Center of New York, New York City, NY October 2022 – June 2024
Group Leader

- Developed and instructed a Python curriculum, achieving a 40% increase in coding proficiency among 30+ students within a 2 year period.