Husain Wafaie

(949)992-7640 husainwafaie@gmail.com /in/husain-wafaie/ github.com/husainwafaie husainwafaie.com

Education

University of California, Irvine **Graduation: Aug. 2024**

Bachelor of Science in Computer Science and Engineering *GPA: 3.5, Deans Honors List x4*

- **Relevant Coursework:** Data Structures and Algorithms, Database Management, UI / UX Software, Networks, Web Development, Algorithm Design and Analysis, Web Services, Software Engineering, Probability and Statistics, Linear Algebra and Mathematics, Object Oriented Programming, Machine Learning, Principles of Operating Systems

Experience

Software Engineer Intern **Jun. 2023 – Sep. 2023**

Omdena *Irvine, CA*

- Developed a full-stack platform for building neural networks and designing quantum circuits using Django and React
- Designed and built internal systems to manage user requests, accounts, and admin view, increasing resources by 82%
- Integrated the application with AI models to generate NN models based on input designs in under 5 seconds
- Engineered a secure PostgreSQL database and optimized its performance to support 12,000 transactions per minute
- Deployed and scaled the platform on AWS using S3 and EC2, achieving a 60% increase in application performance

Software Engineer Intern **Mar. 2023 – Jun. 2023**

Integrated Diagnostics Holdings *Cairo, Egypt*

- Designed and maintained an appointment reservation system's architecture scalably using Java Spring Boot
- Utilized MySQL and JPA to manage and query user data for over 500,000 users, and optimized database performance
- Implemented RESTful API endpoints and integrated with Amazon API Gateway for efficient service communication
- Integrated the platform with AWS, Docker, and Kubernetes for distributed storage and cloud computing
- Leveraged Mockito for unit testing with 95% code coverage and ran integration tests to ensure application reliability

Undergraduate Teaching Assistant **Mar. 2023 – Jun. 2023**

UC Irvine Donald Bren School of Information and Computer Science *Irvine, CA*

- Led office hours and exam review sessions for 320 students in the Boolean Algebra and Logic course to ensure students' comprehension and academic success, in collaboration with Professor Irene Gassko and cross-functional teams
- Graded students' exams and submissions and left comments to help improve students' knowledge
- Developed strong written, self-strategy, and communication skills through active support and engagement

Research/Projects

UCI CanSat | *Software Development Team Lead* **Aug. 2023 – Jun. 2024**

- Led and directed a 10-member engineering team to a 4th/140 position in the NASA International CanSat competition
- Designed and implemented a control unit using Python and Xbee modules to communicate with a CanSat satellite from up to 2000 meters via its firmware, control its operations, and display real-time data received for data visualization
- Led the redesign and modeling of the ground station UI, creating a more modern and user-friendly platform
- Utilized C to develop embedded systems on the STM32 microcontroller to transmit sensor data in under 200 ms
- Wrote and designed unit tests and developed test branches to ensure component functionality and reliability

UCI NewU Cryptocurrency Platform | *Team Lead* **Mar. 2024 – Jun. 2024**

- Led an 8-member software team to launch a dynamic end-to-end trading platform in collaboration with Avalanche, managing the software development life cycle, CI/CD, and utilizing Agile methodologies for efficient product delivery
- Engineered core functionalities to enable users to buy, sell, and trade crypto using backend blockchain technology
- Utilized TypeScript and React for frontend, enabling 5 Wallet ID-based logins and crypto data analytics display
- Developed an instant messaging system for individual and group communications for 1,500 users using Node.js

UCI Resilient Cyber-Physical Systems Lab | *Undergraduate Researcher* **Oct. 2023 – Apr. 2024**

- Developed neural networks-based algorithms using PyTorch, C++, and Raspberry Pi for autonomous drone navigation and obstacle avoidance in collaboration with Professor Yasser Shoukry and Ph.D. students
- Utilized deep reinforcement learning to replace the traditional PID controller with an autonomous drone controller for more adaptability, learning capacity, managing ambiguity, and a 200% decrease in response time
- Integrated a Vicon system to enhance drone vision and object detection by 61% compared to mounted drone camera

Technical Skills

Languages: Java, Python, C/C++, SQL, NoSQL, JavaScript, TypeScript, HTML/CSS, C#, R, Verilog, Lisp, VHDL
Technologies/Frameworks: React, Node.js, REST APIs, Flask, Django, Spring Boot, TensorFlow, NumPy, Pandas
Developer Tools: Github, AWS, GCP, Version Control, VS Code, Visual Studio, Jenkins, Linux, Kubernetes, Bash