Husain Wafaie

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

Education

University of California, Irvine **Expected Graduation: Jul. 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, Computer Architecture, Design and Analysis of Algorithms, Web Services, Software Engineering, Probability and Statistics, Linear Algebra, Object Oriented Programming, Network Analysis, 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 React and Django
- Designed and built internal systems to manage user requests, accounts, and admin view, increasing resources by 82%
- Integrated the application with AI models to auto-build and generate neural networks based on input designs
- Engineered a PostgreSQL database, incorporating advanced security measures to ensure data integrity and protection
- Deployed and scaled the platform on AWS using S3 and EC2, achieving a 30% 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 Spring Boot
- Utilized MySQL to manage and query user data, enabling personalized experiences and product recommendations
- Implemented RESTful API endpoints and integrated with Amazon API Gateway for efficient service communication
- Integrated the platform with AWS, Docker, and Kubernetes for efficient deployment and management
- Leveraged JUnit for unit testing and conducted integration tests to ensure application accuracy and 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 – Present**

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

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

- Leading an 8-member software development team to launch a dynamic cryptocurrency trading platform in collaboration with Avalanche, utilizing Agile methodologies to ensure efficient project delivery and adaptability to changes
- Engineering core functionalities to enable users to buy, sell, and trade crypto using backend blockchain technology
- Employed React for frontend web development, enabling a Wallet ID-based login and crypto data analytics display
- Developed an instant messaging system supporting individual and group communications using Node.js and Docker

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

- Developed neural networks-based algorithms using C++, PyTorch, 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, and a 200% increase 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, R, Verilog, Lisp, VHDL
Technologies/Frameworks: React, Node.js, REST APIs, Flask, Django, JUnit, TensorFlow, NumPy, Pandas
Developer Tools: Github, AWS, GCP, Version Control, VS Code, Visual Studio, IntelliJ, Linux, Kubernetes