ALI BASALAM

Software Engineer

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PROFESSIONAL SUMMARY

Software Engineer with a strong foundation in backend systems, robotics integration, and full-stack web development. Experienced in building scalable **RESTful APIs**, optimizing system performance, and integrating **hardware-software automation** using **Python, C++, .NET Core, and SQL**. Skilled in **React**, **Node.js**, and **cloud platforms** (AWS, Azure), with a focus on delivering practical, user-focused solutions. Adept at collaborating in cross-functional teams, adapting quickly to emerging technologies, and approaching technical challenges with a blend of analytical and creative problem-solving.

PROFESSIONAL EXPERIENCE

Robotics Integration & Production Engineer | Trossen Robotics, Downers Grove, IL | 2025 – Present

- Integrate and configure robotic systems used in industrial and research applications, ensuring full software-to-hardware functionality.
- Program and calibrate robotic arms, sensors, and controllers using C++, Python, and ROS2.
- Perform motion control testing, debugging, and fine-tuning for precision and repeatability.
- Collaborate with the engineering team on R&D prototypes, developing new robot configurations and testing automation solutions.
- Flash and troubleshoot firmware, manage serial and TCP/IP communication between microcontrollers and main control systems.
- Create internal testing and diagnostic tools for robotic motion, sensor feedback, and system visualization.
- Handle end-to-end build processes, from electrical wiring and mechanical setup to software integration and final QA before client shipment.
- Assist in field deployment, customer configuration, and post-installation technical support.

Library Supervisor | Cullom-Davis Library, Bradley University, Peoria, IL | 2023 –2025

- Managed daily library operations and supported students, staff, and faculty with academic and technical assistance.
- Supervised and trained student workers, ensuring smooth coordination and efficient task handling during shifts.
- Assisted students with research materials, printing, and computer-related issues.
- Collaborated with library staff to organize events and improve access to digital and physical resources.

Software Development Intern | Sahllak.com, Muscat, Oman | 2022 –2022

- Designed and improved ERP application modules using the MVC architecture with .NET Core and C#.
- Developed RESTful APIs and integrated them with front-end components using React and dynamic, responsive user interface elements.
- Wrote and optimized SQL queries and stored procedures to improve system responsiveness and reliability.
- Collaborated closely with designers and backend engineers to deliver stable features that met business goals. And Implemented unit and functional testing to ensure code quality and reduce deployment issues.
- Built reusable front-end components with React to maintain a consistent and efficient user interface.

Data and Operations Analyst Intern | Ideal Solutions, Muscat, Oman | 2021 –2022

- Managed daily ride operations, ensuring smooth coordination between drivers, clients, and support teams.
- Designed and implemented data management systems using Java and C# to streamline tracking and reporting processes.
- Analyzed supply chain and delivery networks to improve route planning and resource allocation.
- Maintained a SQL-based performance tracking system to monitor delivery schedules, inventory flow, and rider productivity.
- Created and automated reports using Microsoft Excel and Power BI to share insights with leadership and operations teams.
- Built and maintained data dashboards to visualize performance trends and support better decision-making across departments.

EDUCATION

Bachelor of Science in Computer Information Systems   May 2025
Bradley University   *Peoria, IL, USA*

Diploma in Information and Communications Technology (Software Engineering)   Dec 2021
Asia Pacific University   *Kuala Lumpur ,Malaysia*

SKILLS

Programming & Web Development - Python, C++, C#, JavaScript, SQL, HTML, CSS, React, Node.js
Robotics & Systems - ROS, Sensor Integration, Motor Control, Robot Kinematics, Linux (Ubuntu), Bash Scripting
Database & Cloud - MySQL, PostgreSQL, MongoDB, AWS, Azure
Tools & Networking - Git, Visual Studio, Docker, TCP/IP, DNS, Apache
AI & Data - YOLO Object Detection, Machine Learning (ML), Data Analysis, RESTful APIs

ACADEMIC EXPERIENCE

- **Capstone Project – Image Recognition with YOLO Model:** Developed an image recognition system on a Raspberry Pi running Linux (Ubuntu) using the YOLO model. Designed to assist future students in the Introduction to Artificial Intelligence class at Bradley University.
- **Bank Management System (Java):** Built a system to handle bank operations, including account management, transactions, and loan processing.
- **Online Streetwear Shopping Website:** Created an e-commerce website allowing users to browse and purchase products, using SQL, HTML, and CSS for backend and frontend development.
- **COVID Resources AI Chatbot:** Developed an AI-powered chatbot to provide users with information and resources related to COVID-19.
- **Travel Agency Management System (C++):** Designed and implemented a system to manage bookings, reservations, and transactions for a travel agency.

ADDITIONAL INFORMATION

LEADERSHIP

Student Body President | International Students Association, Bradley University | 2023 – 2025

- Led a diverse team of representatives, fostering cultural engagement and organizing events for the international student body.
- Coordinated workshops, social events, and mentorship programs to help new international students adapt and succeed.
- Served as a liaison between students and university administration to address concerns and improve student services.

Member of Student Senate | Bradley University | 2024 – 2025

- Represented the interests of the international student community in university-wide decision-making.
- Participated in planning and reviewing campus policies, programs, and events, contributing to student welfare initiatives.
- Collaborated with fellow senators to improve student engagement and advocate for diverse student needs.