

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
Bradley University

May 2025
Peoria, IL, USA

Diploma in Information and Communications Technology (Software Engineering)
Asia Pacific University

Dec 2021
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.