ADEEB ALQAHTANI

Software Integration Engineer

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SUMMARY

Dynamic and detail-oriented Software Integration Engineer with over a decade of experience in designing, integrating, and optimizing complex systems. Skilled in system architecture, requirements analysis, and end-to-end system lifecycle management, with a proven ability to deliver high-performance, scalable solutions. Experienced in integrating hardware, software, and network components to meet stringent operational and regulatory standards, including military and defense protocols. Adept at troubleshooting and resolving complex system issues, ensuring reliability and compliance. Passionate about leveraging technology to enhance operational efficiency and support impactful national projects.

EXPERIENCE

Software Integration Engineer

Rheinmetall Arabia For Simulation and Training

11/2024 - Present Riyadh

- Architected and implemented middleware solutions for real-time data integration, enabling seamless communication between host systems and external modules.
- Led the end-to-end integration of simulation and training systems, executing the full SDLC from requirements gathering and technical specifications to deployment and performance optimization.
- Conducted root cause analysis and troubleshooting to resolve integration issues and ensure system reliability.
- Designed and documented system architecture to support enterprise integration and emerging technology adoption for simulator upgrades.
- Performed detailed site surveys, providing recommendations and implementing solutions to enhance simulator performance and ensure alignment with cutting-edge trends.

Flight Simulator Engineer

PSAA Engineering Dpt. 01/2019 - 10/2024 Jeddah

- Led the qualification, testing, commissioning, and certification of Full Flight Simulators, ensuring strict compliance with aviation standards(FAA, EASA & GACA).
- Provided expert troubleshooting for complex technical challenges, ensuring timely resolution and minimal downtime.
- Collaborated on system integration and performance optimization to improve simulator reliability and enhance operational efficiency.

Flight Simulator Maintenance Supervisor(D)

PSAA Technical Servesis Dept. 01/2024 - 06/2024 Jeddah

- Led a team of technicians to optimize operations, enhance scheduling, and improve training readiness, ensuring seamless performance and effective team coordination.
- Supervised performance metrics and ensured adherence to regulatory and safety standards. Delivered comprehensive reports and analyses to support strategic decision-making and drive operational enhancements.

Full Flight Simulator Technician

PSAA Technical Servesis Dept. 04/2010 - 12/2013 Jeddah

- Maintained and optimized flight simulators, ensuring realistic and reliable performance for pilot training.
- Configured single-board computers, modified interface cards, and upgraded I/O units for seamless system integration.
- Installed, calibrated, and aligned instrument panels, visual systems, and motion platforms for enhanced realism.
- Improved uptime and customized systems to meet specific training requirements through efficient troubleshooting and modifications.

PROFESSIONAL KEY ACHIEVEMENTS

Cost Saving Of $95K

Designed a software modification for a 6-DOF motion system, reducing downtime and saving $95K while enhancing system readiness.

Middleware Solutions

Developed real-time, multithreaded C++ middleware for CIGI protocol conversion, enabling seamless integration and communication between distributed systems.

ACADEMIC ACHIEVEMENT

Outstanding Practical Application Award

Received the 'Outstanding Practical Application Award' for developing a face recognition project, voted by students as the most useful and implementable.

WORK AWARDS

- Recognized as Employee of the Month multiple times for exceptional performance and dedication.
- Appreciation letter for handling a complex 6-DOF electrical motion system failure (2022).
- Appreciation letter for handling a software modification for 6-DOF motion system (2022).
- Appreciation letter for teaching basic electronics course(2021).
- Appreciation letter for teaching basic C++ programming course (2019)

TRAINING/COURSES

1000+ hours achieved in technical training from Canadian aviation electronics, L3Harris and Collins Aerospace

PMP Course

Advance Electronics

Interface System

Electromechanical Motion and Controls

EDUCATION

B.S. in Computer Engineering

California State University San Bernardino 01/2015 - 06/2018

- Focused in high performance and embedded systems.

Deep Learning (AI) Nanodegree

MISK 08/2019 - 01/2020

- Hands-on experience in 6 artificial intelligence projects.

Associate Degree in Electrical and Electronics

Yanbu Industrial College 08/2004 - 06/2008

- Majored in instrumentation and control system.

PROJECTS

CIGI to CIGI Middleware for Cougar Helicopter Visual IG

Developed multithreaded C++ middleware for real-time CIGI to CIGI protocol conversion. Enabled efficient data transmission and optimized communication between the host computer and image generator.

DIS-CIGI Middleware for Cougar Helicopter CGF

Developed a multithreaded C++ middleware for real-time DIS to CIGI protocol conversion between the Computer Generated Forces (CGF) and Image Generator (IG).

Servo Drive Firmware Restoration for 6-DOF Motion System

Built a custom firmware update station with a PC and power supply to erase and reinstall the correct firmware, restoring system functionality. This solution avoided the need for a costly hardware replacement, saving the company $95,000.

Flight Controls Microcontroller Integration

Integrated a microcontroller to drive simulator flight controls, ensuring responsiveness and compliance with standards. Authored the Design, Implementation, and Performance Assessment Report.

TRAINING/COURSES

Computer Network

Python for Data Science & AI

SKILLS

leadership and management skills

Problem-solving | Interpersonal Skills | Strategic Thinking | Time Management

Hardware

Circuit design | Electronics | Microcontrollers | Robotics | Field Programmable Gate Arrays (FPGA)

Software

C/C++ | Python | Matlab | Verilog