

ADEEB ALQAHTANI

Software Integration Engineer

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Summary

Dynamic and detail-focused Software Integration Engineer with over ten years of experience designing, integrating, and optimizing complex systems. Skilled in system architecture, requirements analysis, and managing complete system lifecycles. Experienced in integrating hardware, software, and network elements to meet strict standards, including military and defense requirements. Expert at troubleshooting complex issues to ensure reliable performance and compliance. Passionate about using technology to improve efficiency and support important national projects.

Experience

Rheinmetall Arabia For Simulation and Training Riyadh
Software Integration Engineer 11/2024 - Present

- Developed middleware solutions for real-time data integration, ensuring smooth communication between host systems and external modules.
- Led integration of simulation and training systems, managing the complete development process from requirements to deployment.
- Designed and documented system architecture for simulator upgrades and new technology adoption.
- Conducted site surveys and provided solutions to improve simulator performance and align with current industry trends.

PSAA Engineering Dpt. Jeddah
Flight Simulator Engineer 01/2019 - 10/2024

- 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.

PSAA Technical Services Dept. Jeddah
Flight Simulator Maintenance Supervisor(D) 01/2024 - 06/2024

- Led a technician team to enhance operations, scheduling, and training readiness, ensuring effective coordination and smooth performance.
- Monitored performance and ensured compliance with safety and regulatory standards, providing reports to support decision-making and improvements.

PSAA Technical Services Dept. Jeddah
Full Flight Simulator Technician 04/2010 - 12/2013

- 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.

Education

California State University San Bernardino 01/2015 - 06/2018
B.S. in Computer Engineering

- Focused in high performance and embedded systems.

MISK 08/2019 - 01/2020
Deep Learning (AI) Nanodegree

- Hands-on experience in 6 artificial intelligence projects.

Canadian Aviation Electronics 05/2009 - 04/2010
Intensive Training Program

- Simulator Maintenance & English Program

Yanbu Industrial College 08/2004 - 06/2008
Associate Degree in Electrical and Electronics

- 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.

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.

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

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