MARK DELAGARZA

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Professional Summary

Senior Engineer and Technical Consultant with 15 years of hands-on expertise in industrial automation, electromechanical systems, and advanced manufacturing environments. Proven leader in driving production and operations excellence through smart factory technologies, robotics integration, and process optimization aligned with Industry 4.0 standards. U.S. Air Force Veteran recognized for leading high-impact initiatives and mission-critical operations with a flawless safety record. A multifaceted and motivated leader who inspires cross-functional teams, streamlines workflows, and delivers innovative solutions that enhance performance, reduce downtime, and elevate operational efficiency across diverse industries.

Operational Test (OT&E)	Validation/Verification	Automation Systems	Ignition/HMI
Design/Maintenance	Process Improvement	Jira/SNOW	Multifaceted
Data Analytics	Cad/Wiring Diagram	Linux/Cygwin	Communication
PLC Studio5000/VFD	Software Applications	SQL DB Management	Robotics/ABB/AGV
Software Development	Manufacturing MES	Allen Bradley	RCA/FI/SOP

Professional Experience

Senior Systems Engineer (Contract) – March 2024 to Present

Rockwell Automation / Astrion – *San Antonio, TX*

- Led MES solution development and implementation using Rockwell FTPC for a major manufacturing site, improving production efficiency and reducing downtime.
- Designed and deployed MES enhancements and Java-based applications to streamline data handling, improve system responsiveness, and support real-time decision-making.
- Delivered daily operational support across production lines, troubleshooting MES and automation issues to minimize disruption and ensure consistent plant uptime.
- Collaborated closely with operators, technicians, and maintenance teams to resolve line-level issues, adjust control strategies, and validate system integrity.
- Proactively monitored and analyzed live production data and operator input to drive continuous improvement, reduce cycle times, and identify optimization opportunities.
- Integrated middleware and back-end systems (DB, SQL) to support seamless data flow, cross-system interoperability, and secure storage of production data.
- Diagnosed and resolved complex MES and automation issues, leveraging root cause analysis and code optimization to achieve a 25% reduction in recurring disruptions.
- Supported deployment of system updates and configuration changes with minimal impact on operations through robust change management and validation procedures.
- Conducted trade space analysis, S&T road map development, and systems engineering reviews for government and industrial programs.
- Provided strategic guidance on system acquisition, CM2 processes, and full life cycle support, improving program alignment with business and mission goals.
- Created technical documentation, issue logs, and management briefs to ensure traceability, clear communication, and actionable insight for stakeholders

Education

B.S. Computer Science Software Development - ECPI University - Virginia Beach, VA
B.S. Electrical Systems Engineering Technology - ECPI University Virginia Beach, VA
M.S. Industrial Systems Engineering - ECPI University Virginia Beach, VA (In Progress)
Community College of the Air Force - Nellis Air Force Base, NV

Automation System Engineer - July 2022 to March 2024
Symbotic System - *New Braunfels, TX*

- o Oversaw and managed eight automation cells featuring high-level robotic systems, ensuring seamless operation and integration.
- o Initiated a comprehensive program to monitor critical issues, possible improvements, and changes, culminating in elevated structural integrity and overall system health.
- o Led the execution of change requests for ABB robots, enhancing functionality and safety within Adapter cell locations, resulting in improved operational efficiency.
- o As the lead Inbound/Outbound Engineer, conducted trend analysis contributing to daily Key Performance Indicator reports, facilitating informed decision-making, and driving continuous improvements utilizing MySQL database management for streamlined data extraction.
- o Mentored and educated new Engineers on diverse aspects including adapter cells, vertical lift systems, automated robotic vehicles, and warehouse management systems, contributing to a skilled and capable team.
- o Provided guidance and instruction to incoming Engineers on a wide range of subjects, encompassing robotics, pneumatics, servo motors, motion controllers, PLCs, and PC-based control systems, fostering a knowledgeable and proficient team dynamic.

System Integration Engineer/Payload - July 2017 to October 2022
General Atomics System Integration - *San Diego, CA*

- o Strategic Consultation: Advised the Chief Operating Officer (COO) on a comprehensive range of operational matters both in-field and off-field, encompassing mission readiness, system capabilities, and system design, aligning with strategic goals.
- o Operational Oversight: Demonstrated meticulous management of the operational integrity of sophisticated systems and subsystems, ensuring strict adherence to technical operating procedures stipulated by the customer, thereby maintaining optimal functionality.
- o Effective Leadership: Provided guidance to seasoned personnel, overseeing integration practices, and successfully incorporating newly devised processes to fulfill the functional requirements of the customer, fostering efficiency and innovation.
- o Thorough Documentation Analysis: Conducted reviews of technical documentation, meticulously assessing clarity and alignment with overarching objectives, safety protocols, and regulatory standards, ensuring a comprehensive compliance framework.
- o Strategic Test Planning: Orchestrated and executed comprehensive operational tests and evaluations for advanced weapon systems, including the integration of Signal Intelligence (SIGINT) capabilities encompassing radar frequencies, contributing to cutting-edge capabilities assessment and advancement.

Weapons Standardization/Safety Manager - April 2010 to April 2019
United States Air Force –*Houston, TX & Indian Springs, NV*

- o Led the development and implementation of advanced safety and injury prevention programs, ensuring compliance with OSHA, DoD, and MSDS protocols to protect 177 personnel and safeguard over $180M in munitions and aerospace ground equipment.
- o Directed global munitions operations during a 40-month overseas deployment, maintaining a flawless zero-mishap record and achieving a 100% munitions release rate in support of critical missions.
- o Oversaw weapons standardization and tactical policy enforcement for over 300 DoD personnel, optimizing process workflows and mechanical handling procedures across diverse platforms.
- o Conducted in-depth fault isolation and root cause analysis for weapons system malfunctions, integrating troubleshooting methodologies to minimize equipment downtime and enhance mission readiness.
- o Managed the full lifecycle of munitions inventory control, safety certification programs, and technical documentation—ensuring audit readiness, regulatory compliance, and operational continuity
- o Played a key role in maintaining combat readiness through rigorous training oversight, performance evaluations, and system-level diagnostics, supporting safe and effective deployment of air-delivered munitions.
- o Authored and maintained detailed technical records, inspection logs, and system performance reports in