

Sidharth Raj

Sr. Advanced Systems Engineer

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Professional Summary

Senior Systems & Automation Engineer with 7+ years designing and deploying large-scale industrial control systems, WCS/WMS integrations, and safety-critical automation solutions. Experienced in PLC/DCS programming, embedded systems, and full-stack machine control development across distribution, process automation, and life-safety domains. Proven ability to lead cross-functional engineering efforts, deliver complex projects, and support NPI initiatives from concept to field deployment.

Employment History

JUN 2025 – PRESENT

CHICAGO, IL

Sr. Advanced Systems Engineer, Honeywell Analytics

- Designed and implemented toxic gas monitoring systems, overseeing control system architecture, component selection and procurement, system integration, and execution of FAT, SAT, and User Acceptance Testing.
- Led Experion GMS product development, including system architecture, technical consultation, field validation, and development of supporting software tools.
- Delivered pre- and post-sales engineering support for Honeywell GMS platforms, gas monitoring control systems, and gas detection hardware; conducted on-site control system audits to improve reliability and compliance.
- Developed internal automation tools and standardized workflows to streamline implementation processes, reduce engineering effort, and improve deployment consistency.
- Collaborated cross-functionally with offering management, sales, and marketing teams to support New Product Introduction (NPI) initiatives and customer-driven enhancements.
- Supported integration of automation and control systems, including PLC programming, HMI design, and deployment of Industry 4.0 solutions to enhance system connectivity and operational intelligence.

FEB 2024 – MAY 2025

CHICAGO, IL

Technical Solution Consultant, Honeywell Process Measurement and Control

- Designed and engineered solutions across SCADA/DCS architecture, network infrastructure, advanced controls, connected systems, and cybersecurity, ensuring alignment with customer requirements and Honeywell best practices.
- Supported sales and marketing efforts for modular control systems across North America, translating technical capabilities into compelling value propositions.
- Delivered pre- and post-sales technical support for Experion LX/HS, ControlEdge PLC/RTU, MasterLogic PLC, FDM, PHD, Uniformance Insight, ARO, HC900 SIL2 PLC, and SMSC SIL3 systems.
- Actively contributed to New Product Initiatives (NPI) by reviewing product requirements, validating technical feasibility, and supporting cross-functional development processes.
- Developed a deep understanding of Honeywell DCS system interconnections, enabling accurate solution design and troubleshooting across integrated platforms.
- Provided technical training and enablement for customers, channel partners, and system integrators, improving adoption and reducing support escalations.
- Reviewed customer proposals for technical completeness, collaborating with proposal and estimating teams to define accurate scope, architecture, and deliverables.
- Presented technical and commercial business cases to customer leadership, while partnering with Solutions Offering and Marketing teams to provide expert guidance on Honeywell technologies.

MAY 2022 – MAR 2024

CHICAGO, IL

Software Engineer II - Program Lead, Honeywell Intelligrated

- Led major WCS deployments for Amazon Fulfillment Centers and high-volume distribution sites.
- Specialized in WCS/WMS integration, automation testing, and go-live execution.
- Used C# and C++ to configure machine control for conveyors and high-speed sortation systems.
- Supported project planning, reporting, and execution alongside technical implementation.

- Developed and maintained Machine Control Interface Standards across multiple platforms.
- Trained new engineers on base code, equipment handling, and troubleshooting practices.
- Provided technical support across Estimating, Project Management, Systems Engineering, Installation, Product Development, and Sales & Marketing.

JAN 2020 – MAY 2022

MASON, OH

Software Engineer, Honeywell Intelligrated

- Improved SQL databases for Intelligrated WCS clients, increasing data reliability and performance.
- Updated C++ and C# code to add features, fix defects, and improve stability.
- Prepared, configured, and deployed server hardware for customer environments.
- Edited and maintained XML configs to ensure WCS client, backend, and equipment communication.
- Created custom SQL scripts to automate database updates and reduce repetitive tasks.

Education

2017 – 2019

ARLINGTON, TX

M.S. Computer Engineering, University of Texas

2013 – 2017

CHENNAI, INDIA

B.Tech. Electronics and Instrumentation, S.R.M University

Skills

Industrial Control System Design

SCADA Design & Implementation

Product Management & Development

Arduino | ESP | SBC

MODBUS | MQTT | DNP3

HTML | CSS

IoT Integration

DCS System Design

PLC | RTU

C | C++ | Python | C# | SQL

I2C | UART | SPI

Linux | Windows | Proxmox

Projects

Home Automation

2025-PRESENT

- Built a full home automation ecosystem using a Proxmox cluster running Home Assistant, MQTT broker, DNS, NVR, Grafana, and Node-RED.
- Designed multi-zone environmental sensor modules using ESP32 with BME280/AHT20 (temp/humidity/pressure), LD2410 (presence detection), INMP441 (microphone), and SGP30 (TVOC/CO₂).
- Implemented Frigate and MotionEye NVR for video recording across Google, Tapo, and Wyze cameras (via bridge).
- Deployed wall-mounted Home Assistant control stations on repurposed Android tablets with a custom dashboard for lighting, environmental data, and video feeds.
- [Planned] Smart irrigation system for backyard raised beds with soil moisture, temperature, humidity, UV, and rain-sensing automation.

Custom i3 FDM 3D Printer - DDE

2021 - 2022

Modified a cartesian style Ender 3 printer with improved linear motion, efficient electrical upgrades and carefully tuned firmware for fast high quality fabrication.