Casey Rodgers

Senior Backend & IoT Infrastructure Consultant

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POSITIONING

Senior backend and IoT infrastructure consultant. I take systems that need to move real-world sensor data reliably — from the radio protocol to the cloud pipeline to the dashboard — and make them production-grade. 25+ years shipping; the last 10 in IoT and AWS.

SELECTED ENGAGEMENTS

Production IoT telemetry platform — Sensor Industries (2016–2026)

- Delivered the core Java ingestion-and-distribution backend: sensor data through AWS SQS, persisted to DynamoDB, served via AppSync (GraphQL) and REST to multiple UI clients.
- Built the TCP gateway listener and an async gateway-command channel using a bi-directional MQTT protocol for device control.
- Result: a horizontally scalable pipeline (SQS → Lambda → DynamoDB) that grew to 30K+ heterogeneous sensors across 100+ buildings without re-architecture.

LoRaWAN & mesh network rollout — multi-tenant properties (Sensor Industries)

- Designed, deployed, and debugged LoRaWAN and mesh networks across resorts and multi-tenant dwellings — Wyndham Resorts and 100+ other buildings, 30K+ sensors.
- Built the AWS LoRaWAN ingestion layer (Node.js Lambdas) so multiple sensor types share one path.
- Ported the SIMESH gateway to MicroPython across several MCU targets (LoPy and others), decoupling the mesh from a single hardware vendor.

Sensor-installation app — Sensor Industries

- Delivered a cross-platform Ionic/Angular app (Capacitor for scanner/camera) used by professional installers at large properties and by residents doing self-installs.

AI work-order narrative system — Sensor Industries

- Built a system (AWS Bedrock) that automatically generates detailed narratives for complex, customer-facing work orders.
- Exploratory predictive analysis on raw sensor data to flag localized flooding before it escalates.

Multi-channel event notification system — Sensor Industries

- Designed and shipped the escalation path for water/flood events: automated client communications across email, SMS, app push, and phone-message escalation, driven off the same real-time telemetry stream.

HVAC interoperability device — Envenergy (2010–2014)

- Architected the embedded bridge between proprietary HVAC systems (Trane and others) and one standard interface; built the Java Swing configuration and scripting tool. Engagement led to an OEM bundling contract with Trane.

Agricultural water-basin monitoring — Odyssey Industries (2021–2023)

- Delivered the backend capturing and persisting device data for remote water-level tracking across geographically dispersed basins.

HOW I WORK

- Debug under production pressure; explain the decisions afterward.
- Depth in fundamentals — protocols, databases, memory, concurrency.
- Build for maintainability and hand-off, not just for the demo.
- Adapt the stack to the problem; I've followed the tech landscape for 25 years and expect it to keep moving.
- Comfortable owning the UI, not just the backend — shipped production interfaces in Java Swing, JavaScript, and TypeScript.
- Remote-first: full professional home dev environment, fluent with Slack and remote-team tooling, solo or embedded in a team.

STACK

Java/Maven · Python · Node/TypeScript · C/C++ · AWS (SQS, Lambda, DynamoDB, AppSync, Aurora PostgreSQL, ECS, EC2, IoT Core, Bedrock) · LoRaWAN · MQTT · MicroPython · PostgreSQL · Ionic/Angular · Java Swing · Docker · GraphQL