

## Professional Project Portfolio – Kamal Kakish

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### IBM Projects 2022-2025

Role: Full Stack Software Developer

#### AskMEA – Slack-Based AI Assistant

Stack: Python (Slack app, web scrapers, data ingestion), Cloudant, Cloud Object Storage, JIRA API, watsonX Assistant and Watson Discovery

Developed a conversational AI agent integrated with Slack using watsonx Assistant (Granite 3.2) and a Retrieval-Augmented Generation (RAG) architecture. Automated application onboarding and offboarding, removing the need for SRE intervention. Integrated with 12+ GitHub repositories and internal dashboards to answer user queries contextually. Reduced support response times by over 10x and streamlined step-by-step guidance for monitoring workflows.

**Received executive commendation for spearheading AI adoption at scale, resulting in major improvements in operational efficiency, reduced support overhead, and measurable labor cost savings. Based on its success, I was recommended to join the AskITOps team and expand the solution to AskIBM.**

#### AskITOps – Application Retirement and Automation Agent in AskIBM

Stack: JavaScript, watsonx Orchestrate, ServiceNow, RAG model, Cloudant, Cloud Object Storage, API Connect

Extended AskMEA capabilities into the AskITOps Slack app within AskIBM. Integrated all AskMEA automation features including onboarding, contextual guidance, and monitoring support. Automated application retirement workflows, reducing processing time from 3–4 weeks to just a few days. Implemented proactive notification system and feedback loop for LLM training.

#### Monitoring Coverage Dashboard Migration

Stack: React (frontend), Next.js (APIs), Cloudant, Cloud Object Storage

Led migration from Splunk to IBM Cloud-native services to reduce license cost and increase control. Delivered interactive dashboards for SREs and executives to monitor Dynatrace → Instana/Falcon migration. Surfaced live metrics on golden signals, health, and observability coverage.

**Commended by leadership** for swift delivery, **effective cross-team coordination**, and **exceptional data visualization design** that aligned with executive reporting needs.

### Status-Radar – Slack Integration and Alert Subscription

Stack: Java (Spring Boot), Node.js, React, IBM DB2, Carbon Charts, Slack Webhooks  
Built a user-facing portal to manage Slack alert subscriptions for application health updates.  
Developed backend microservice to send real-time Slack notifications, reducing time-to-resolution.

### Falcon Logging & Backup Automation

Stack: Python (logging/backup scripts), Ansible (execution verification), Cloud Object Storage, IBM DB2  
Automated log archival to COS with 180-day retention and auto-deletion of logs >7 days old.  
Enabled backup replication and notification-based validation of automation outcomes.

### One-Click Cirrus to Instana Integration

Stack: Go  
Engineered an end-to-end automated solution for onboarding Cirrus-hosted apps into IBM Instana. Included RBAC setup, logging enablement, and Instana agent configuration for observability.

**Commended by IBM CIO executives** for delivering the solution **9 months ahead of the revised deadline**, going above and beyond to meet urgent organizational needs and ensure seamless integration under tight timelines.

### Ansible Tower to Automation Platform Migration

Stack: Ansible Tower, AAP  
Led cross-team initiative to migrate projects and inventory from Ansible Tower to the Ansible Automation Platform. Standardized job templates, credential storage, and credentialed access for production automation pipelines.

### Status-Radar Services Page

Stack: Java (Spring Boot), IBM DB2, ServiceNow API, Dynatrace API  
Built a dynamic page in Status-Radar showing active services and applications monitored via Dynatrace. Developed microservice to retrieve services and application data from Dynatrace and ServiceNow, upload data to IBM DB2.

### Intelligent Security Systems (ISS) Projects 2019-2022

Roles: Technical Support Engineer, Lead Support Engineer & Solutions Architect

### Object Counter Dashboard

Stack: Node.js, React, PostgreSQL, Chart.js, SecurOS SDK  
Built a video-integrated dashboard with live object detection and count tracking using AI-powered analytics. Provided visual feed, computer vision object classification, and real-time counts of ingress/egress data.

### **Thermal/Mask Detection Interface & Access Control Integration**

Stack: Python, JavaScript, Mobotix SDK, SecurOS SDK, S2 Access Control

Integrated Mobotix thermal camera and SecurOS facial recognition to detect temperature and masks per COVID protocol. Granted access only if temperature <100°F and mask detected via neural network-based facial recognition. Displayed event metadata and captured photo with access granted/rejected tag.

### **Thermal Detection Interface & Arduino Access Control**

Stack: Arduino (C), JavaScript, SecurOS SDK, S2 Access Control

Engineered physical access control mechanism using Arduino, integrated via SecurOS SDK. Developed automation scripts in SecurOS's embedded JavaScript engine to manage access flow.

### **Site-to-Site Failover for SecurOS Replication**

Stack: PostgreSQL, SecurOS Infrastructure

Standardized active replication between sites to ensure continuous access to video analytics data. Delivered high availability and redundancy for mission-critical security systems.

### **SecurOS ML Model Training Support**

Stack: Python, R, Chart.js

Conducted performance analytics to assist in precision/recall improvements for SecurOS ML models. Collected and analyzed sample data for retraining cycles and QA testing of AI behavior.

### **Real-Time Automation & Notifications for Access Control**

Stack: Node.js, JavaScript, SecurOS SDK

Developed real-time dispatch, alarm, and notification scripts integrated with access control. Delivered secure access automation and live alerts to system users.

### **Project Ownership & Stakeholder Delivery**

Stack: Full SDLC & Infrastructure Design

Led solution design from requirements gathering to deployment, including system/network sizing. Landed and supported \$2M+ in client projects through technical demos, POCs, and onsite technical leadership.

### **End User & Partner Training / Advanced Support**

Delivered training classes with certification exams for SecurOS partners and end users. Provided expert-level support across the U.S. and technical ownership of tri-state regional accounts.

### **Integrated Camera APIs with SecurOS Platform**

Integrated third-party camera APIs directly into the SecurOS platform using the SecurOS SDK and industry-standard protocols like ONVIF. Enabled bi-directional control, real-time video streaming, and event-driven automation across multiple surveillance endpoints. Developed modular interface logic to support custom camera behaviors such as PTZ control,

smart event tagging, and adaptive streaming. Improved system compatibility and expandability for large-scale deployments with diverse camera vendors.

#### **Documentation & Enablement for SecurOS Platform**

Authored comprehensive technical documentation covering all core features, integrations, and automation capabilities of the SecurOS platform. Standardized formatting and structure across product documentation to align with training, onboarding, and customer enablement needs. Delivered internal Confluence pages and reference guides used by R&D, support, and integration teams to streamline feature adoption and troubleshooting. Played a key role in transforming tribal knowledge into formal documentation for long-term maintainability and scaling partner support.