# Karthik M Senior Specialist - Test Automation

## SUMMARY

Test Automation Engineer with 8+ years of overall experience, including 5+ years at KONE spanning 3 years as a Data Scientist and 2+ years in cloud/IoT test automation. Skilled in building production-grade automation frameworks using Python and Robot Framework for large-scale IoT and cloud-connected elevator systems, designing automated test suites, debugging complex system failures, and collaborating closely with developers, operators, and stakeholders. Strong background in Test Automation, API Testing, IoT & Cloud Testing, Linux, CI/CD, PKI security validation, Docker, and distributed systems troubleshooting — complemented by a data science foundation in machine learning and AWS data pipelines. Currently based in Finland.

## SKILLS

**Languages:** Python, R, Java, SQL

**Test Frameworks & Areas:** Robot Framework, Selenium, Test Automation, API Testing, IoT & Cloud Testing, System Integration & End - to - End Testing

**Cloud (AWS):** IoT Core, Lambda, API Gateway, DynamoDB, S3, SageMaker, Glue, Athena, Crawler, EC2

**Messaging & Security:** Apache Kafka, MQTT, PKI / certificate provisioning

**DevOps & Tools:** Docker, Jenkins, Git, GitLab CI/CD, Linux, Windows

**Testing Expertise:** Test Strategy Development, Regression Testing, Root Cause Analysis, Troubleshooting

**Machine Learning & Visualization:** XGBoost, Random Forest, Regression, SVM, TensorFlow, Keras, PyTorch, Scikit - Learn, Tableau, QuickSight, Power BI

**Databases & Statistics:** MySQL, MongoDB, Hadoop basics, Hypothesis Testing, A/B Testing, Time Series Analysis

## EXPERIENCE

**Senior Specialist – Test Automation** · KONE Corporation, Finland — March 2024 – Present

Finland

- End - to - end test strategy across component, integration, and system levels for elevator IoT devices connecting to AWS cloud — deciding what to test, why, and how based on release risks and system behaviour.
- Built and maintained production-quality test automation frameworks in Python and Robot Framework, treating test code to the same standards as application code — modular, reviewed, and version - controlled.
- Automated release-critical environment setup: device - to - cloud onboarding, PKI certificate provisioning, and SSH - based configuration — eliminating fragile manual steps and reducing environment failures before releases.
- Designed automated test suites for AWS APIs (Lambda, IoT Core, API Gateway, DynamoDB, S3) covering multiple authorization methods, ensuring service reliability across releases.
- Validated real - time data streaming pipelines via Apache Kafka and MQTT, writing automated checks to catch data integrity issues and communication failures between distributed components early.
- Containerised test environments using Docker for local regression runs, enabling consistent, reproducible test execution independent of developer machine state.
- Performed systematic root - cause analysis of test failures using logs, system traces, and diagnostic tools, collaborating with development teams to resolve issues efficiently.
- Collaborated with developers, product managers, and QA in an agile setup to align test strategies with release goals and shipping timelines.

**Data Scientist** · KONE — February 2021 – March 2024

- Built predictive models using machine learning algorithms to forecast demand, customer churn, and revenue growth, contributing to design and prototyping of medium - to - high complexity ML systems.
- Built and maintained dashboards using QuickSight and Power BI for data visualization and stakeholder reporting.
- Applied computer vision techniques to develop image recognition algorithms for multiple clients.
- Implemented authentication and access control for internal ML/data applications using Amazon Cognito, securing user pools and API access.
- Built serverless data and inference workflows using AWS Lambda, integrating with S3, Glue, and SageMaker endpoints for automated batch and real - time processing.
- Worked with NLP techniques to extract insights from unstructured text data, supporting downstream analytics use cases.

**Software Developer (Data Science)** · Larsen & Toubro Infotech — Client: Travelers (US) February 2018 – February 2021

- Used machine learning and statistical modeling techniques to develop and evaluate algorithms that improved performance, quality, data management, and accuracy for a Risk Management Information System.
- Designed lean proofs of concept (POC) to answer targeted business questions, working across proprietary and varied data stores using existing and newly developed methods.
- Conducted statistical analysis of large datasets using Python, R, and SQL to identify patterns and trends, and used Robot Framework and Selenium for test automation.
- Worked on NLP projects, extracting key insights from unstructured data sources.

## EDUCATION

**B.E. in Electronics and Communication Engineering** · St Peter's Engineering College, India 2017
GPA: 7.6/10

## CERTIFICATIONS

AWS Certified Solutions Architect (April 2023)
Certified Machine Learning Engineer, Applied AI (December 2021)