# Rahul Jaiswal

## Software Engineer

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## 👤 Professional Summary

Dynamic Software Engineer with a proven track record at Toshiba Software India Pvt Ltd, specializing in Python, JavaScript and Azure Cloud Services. Enhanced application performance through optimized database queries and implemented robust testing protocols, significantly improving code and product quality. Adept at integrating new technologies and fostering team collaboration to drive solutions enhanced with AI.

## 💼 Work History

**Software Engineer, 08/2022 – Current**
**Toshiba Software India Pvt Ltd – Bengaluru, India**

- Developed scalable and maintainable code, ensuring long-term stability of the software.
- Built and maintained responsive and modular UI components using **React.js / Vue.js**, integrating REST APIs and real-time data updates.
- Implemented state management using **Redux / Vuex / Context API**, improving maintainability and scalability of large apps.
- Integrated new technologies into existing systems, increasing capabilities and improving overall performances.
- Designed and developed scalable RESTful APIs using **Python (Flask, Fast API)** to power internal tools and external applications.
- Optimized resource utilization by implementing efficient algorithms, contributing to more sustainable and cost-effective operations.
- Designed and managed relational schemas and stored procedures in **PostgreSQL**, optimizing query performance and indexing for large datasets.
- Developed robust **ETL pipelines** using **Azure Databricks** and **PySpark**, handling data ingestion, transformation, and export from diverse sources.
- Deployed containerized applications using **Azure App Services**, **Azure Functions**, and **Azure Kubernetes Service (AKS)**.
- Integrated CI/CD pipelines with **Azure DevOps**, automating build, test, and deployment processes for faster delivery.
- Utilized **Azure Blob Storage**, **Key Vault**, **Azure Monitor, etc.** for secure data handling and real-time logging/alerting.

**Software Engineer Intern, 2/2022 to 07/2022**
**Toshiba Software India Pvt Ltd. – Bengaluru, India**

- Developed and maintained responsive web pages using **HTML5**, **CSS3**, **JavaScript**, and **modern frameworks like React.js/Vue.js**, ensuring seamless user experience across devices..
- Optimized application performance by reducing page load time by **20%** using lazy loading, code-splitting, and asset optimization.
- Integrated RESTful APIs and handled dynamic data rendering and state management using **Redux / Vuex / Context API**.
- Participated in daily stand-ups, sprint planning, and code reviews, gaining experience in **Agile/Scrum development** workflows.
- Used **Git and GitLab** for version control, collaborated through pull requests and issue tracking.
- Added unit tests using **Jest** to improve test coverage and reduce regression issues.

## 📁 Projects

### 1. Elevate Sky Reports

**Domain:** Multifunctional Printers (MFPs) & Barcode Printers (BCPs)
**Role:** Full Stack Developer | Data Engineer
**Technologies:** Azure, Databricks (ML), Python, SQL, Blob Storage, REST APIs, Vue.js
**Description:**

End-to-end contributor to a cloud-based reporting application that generates **billing reports** based on all types of jobs (Print, Scan, Fax, Copy, etc.) performed on MFPs and BCPs. The system ingests raw job data from **Azure Blob Storage**, processes it using **Databricks machine learning algorithms**, stores structured outputs in databases, and exposes the results via APIs for visualization in an interactive web dashboard.

**Key Contributions:**

- Designed and implemented **ETL pipelines** on Databricks to classify and transform raw machine data into structured billing data.
- Built backend APIs for secure and efficient data access using Python and SQL.
- Developed dynamic **frontend dashboards** using Vue JS to display charts, tables, and filters for different job types and devices.
- Created downloadable billing reports for customers based on selected date ranges and machine/job types.
- Deployed the entire application on **Azure** with high scalability and secure access control.

**Impact:**

Enabled customer to visualize device usage and generate billing reports effortlessly, reducing manual tracking and increasing billing accuracy. Improved overall operational transparency and data-driven decision-making for clients.

### 2. Cloud Automated Supply

**Domain:** Barcode Printers
**Role:** Full Stack Developer
**Technologies:** Azure, Fast APIs, Azure Functions, SQL, PSQL, Databricks, Vue JS, Vuetify.
**Description:**

Developed an **automated inventory monitoring system** that tracks and updates the stock levels of consumables such as **labels and toner** for Barcode Machines. The solutions integrates with supply systems and devices to provide **real-time stock visibility**.

**Key Contributions:**

- Integrated machine data with supply chain systems to monitor usage and forecast stock depletion.
- Built serverless components using Azure Functions for event-driven supply updates.
- Designed dashboards and alert for stock thresholds to enable proactive restocking.
- Ensured seamless deployment and scalability using **Azure cloud services**.

**Impact:** Minimized supply-related downtimes and enabled predictive replenishment, improving customer satisfaction and operational efficiency.

### 3. e-Bridge Remote Diagnostic Tool

**Domain:** Predictive Maintenance | Multifunctional & Barcode Printers
**Role:** Full Stack Developer
Technologies: Vue JS, Flask, Azure, Databricks, Python, Azure Monitor.
**Description:**

Engineered a predictive diagnostic tool to **forecast the end-of-life of printer components** (e.g., rollers, drums, print heads, etc.) for MFPs and Barcode Printers. This system proactively notifies maintenance teams before failures occur.

**Key Contributions:**

- Implemented machine learning models on Databricks to analyze usage patterns and predict part failures..
- Created a cloud-based architecture on **Azure** to remotely monitor device health across customer sites.

- Integrated alerting mechanism for early warnings on part replacements.
- Reduced service downtime and unplanned support calls through predictive maintenance.

**Impact:**

Increased machine uptime by 40% and reduced unexpected failures, saving substantial costs on reactive maintenance.

## ☆ Skills

- JavaScript, Typescripts
- SQL
- HTML5, CSS3
- Vue JS, Vue Router, Vuex
- Jest (Testing Framework)
- REST API
- Relational DB
- PL SQL
- Microservices, Docker, Kubernetes

- Object-oriented programming
- Python, Flask, Fast Api
- Azure Services (App Service, Container Registry, Function App, Storge Accounts, Key Vaults, Azure Monitor, App Insights, Databricks, bastion, PostgreSQL, etc.)
- CI-CD, Terraform.

**Tools Used:**
- VS Code, pgAdmin, Git, Gitlab, Redmine, Agile.

## Education

**Bachelor of Engineering:** Computer Science, 08/2022
**Sri Sairam College of Engineering** – Bangalore, India

## Languages

- English
- Hindi