**RISHABH SHUKLA**

**B.Tech - Electronics & Instrumentation Engineering**

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**EXPERIENCE**

5+ Years of experience in development of high quality scalable code for enterprises especially in Energy/Manufacturing industries under strong agile principles.

- Have worked extensively on intercommunication of multiple systems (viz. SharePoint, SAP and Azure) and devices (IOT devices) within large networks by the means of REST APIs and other communication protocols.

- Extensively worked on large distributed systems.

- Good exposure to broad range of Microsoft tools and technologies and their integration to various other software/networking ecosystem.

- Lucid understanding of application security/Authentication mechanism and its implementation at various layers.

- Good understanding of searching/sorting algorithms at enterprise level.

- Extensive understanding and hands on experience in Event driven, message oriented and other architectural patterns

- Ability to evaluate architectural options (Complexity, scalability, performance, availability, durability) and make right recommendation for implementation.

Currently working as Senior Web Developer in Mouser Electronics India for its web based ecommerce platform. Responsible for developing and maintaining its Automated Web Support Application “AutoDOW”.

Earlier worked with India’s premium energy company HMEL as its full time Applications Engineer and led its Digital Transformation projects as the Lead developer.

**Current Technology Stack: Asp.net MVC, Web API, Entity Framework, LINQ, Bot Framework, SQL, Azure Development/Deployment**

**ACADEMIC CREDENTIALS**

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| **Qualification** | **Board/University** | **Year** |
| PG DIPLOMA IN INTERNET OF THINGS | CENTRE FOR DEVELOPMNET OF ADVANCED COMPUTING | 2018 |
| B.TECH  (ELECTRONICS & INSTRUMENTATION) | UTTAR PRADESH TECHNICAL UNIVERSITY | 2014 |

**PROFESSIONAL CREDENTIALS AND INTERNSHIP PROGRAMMES**

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| **ORGANISATION /ROLE** | **EXPERIENCE/RESPONSIBILITIES/PROJECTS** | **DURATION** |
| MOBILE PROGRAMMING LLC | * C#/.Net Development using ASP.Net MVC and Entity Framework – Integrated the existing visitor management system with a new web API consisting of approval and appointment management system | NOVEMBER,2019-FEB,2020 |
| HPCL-MITTAL ENERGY LIMITED | * Chat Bot development using Bot framework on Azure platform and managing its code base using GIT and Azure DevOps – 1.Developed the conversational bot to provide digital support in various modules inside the organization 2.Implemented the Automated CI/CD mechanism for the faster application updates * Development of Full stack web applications using asp.net MVC – 1. Developed complete Health Insurance Claim Portal from scratch.   2. Expanded the Process Safety Management Portal for improved safety within the refinery   * Development of Micro Services/ Web API’s for the external/internal applications - Developed Multiple Micro services/ APIs including one API Gateway to fetch data from different systems within and outside the Network of the refinery unit * Acted as the technical consultant for the state of the art machine learning project for fault detection and diagnosis for the polypropylene plant. * Intranet portal development using the SharePoint platform. * Integrating existing SAP platforms/MES systems/Intranet portals/SharePoint portals/Chat bot using Web APIs /.net sap connector/OData Services. | APRIL, 2018 – NOVEMBER,2019 |
| OM SOLUTIONS | * Backend development using ASP.net Web Forms * Front end development for web applications using HTML/CSS/JavaScript/JQuery * Desktop Application development using Microsoft Foundation Class Library using C++ | July, 2016-Feb 2018 |

**PROJECTS**

* **AI ENABLED CONVERSATIONAL CHATBOT :**

Implemented end to end solution for a conversational AI Chat bot for various modules in the organization. The bot was created using Microsoft’s Bot framework and deployed on Azure using its Bot Service and Web App Service. For Authentication OAuth2.0 protocol was implemented using Azure AD’s Identity platform as Authorization and Authentication server for enhanced security.

Bot consisted of various modules namely HR module, Finance Module, Plant Production module, Poly-Propylene Module. These modules communicated with their respective micro services to fetch the data.

AI capabilities were added using the various Azure cognitive services. To add near Human conversational capabilities Microsoft’s LUIS service was integrated to the bot. LUIS service runs on a Machine Learning based Natural Language processing engine where we train the service to identify the user’s intent from the conversation. In order to make some of the backend processing shareable to other services Azure’s Function App service was also utilized.

In order to add integrated FAQ capabilities to the bot, Azure’s QnA service was utilized which runs on the top of LUIS service. The Bot’s configuration settings and application secrets were stored using the Azure’s Vault service in order to keep the production data secure. For accessing the secure intra-network APIs Azure’s Application proxy service was used. The bot also had speech capabilities for which we utilized Azure’s speech service. For storing the data and images we made use of Azure’s storage service: The images were stored in Azure BLOB storage, files were stored in Azure File storage and non-relational structured data was stored in Azure Cosmos Db (AKA Azure Table Storage).

* **MICROSERVICES WITH API GATEWAY FOR LARGE SCALE DISTRIBUTED APPLICATIONS:**

For end to end automation in the digital transformation project, various data sources were identified which needed to be integrated with automation applications. The organization relied heavily on SAP modules for its operation. The data sharing in SAP ecosystem follows the OData protocol. This methodology was utilized to fetch the data from these systems. There were 4 micro services developed for SAP modules using ASP.net WEB API and one binding gateway known as SAP connector service. The SAP connector service acted as the on-Premise API gateway.

For automating some of the user’s task, data from organization’s active directory and email service was needed. 2 micro services were created one for accessing active directory data using LDAP protocol and another one for Email using SMTP protocol. Both of them had their separate API gateway with Azure AD as their authentication server.

The API gateway helped us to create single point of entrance to the on premise applications from the cloud by the means of Application Proxy Service.

* **STATE OF THE ART FAULT DETECTION SYSTEM FOR POLYPROPYLENE PLANT:**

The fault detection and diagnosis applications’ architecture consisted of Machine learning based analytics service, various data sources updated through IOT devices and a supporting web application communicating to Azure IOT Hub. There were multiple teams with expertise in different areas of the project. My team was responsible for maintaining the supporting web application and send commands to those IOT devices by the means of Azure IOT hub. The web Application implemented MQTT protocol in order to connect with IOT devices as they did not support HTTP protocol due to memory constraint.

**COLLEGE PROJECT**

* **LOW COST LONG RANGE FM TRANSMITTER AND AUDIO MODULATOR WITH 8051 MICROCONTROLLER**

The project resembles a mini radio station with capability to transmit digital as well analog signal. A high frequency oscillator was used to modulate the audio signals into FM waves. The switch between analog and digital sound waves was supported through the 8-BIT 8051 microcontroller where we implemented the digital logic gate to switch between the different circuits for transmission.

**SKILLS**

* TECHNICAL SKILLS
  + Programming Technologies : C#/.Net, JavaScript, Python, T-SQL, C, C++
  + .Net Technologies : ASP.Net MVC, WEB API, Entity Framework, Bot Framework, LINQ
  + Web Development : HTML, CSS, Bootstrap, JQuery
  + Operating Systems : LINUX : Ubuntu/Open Suse/RHEL, Windows: XP/7/8/10/Server 2003/Server 2008/Server 2012
  + Web Servers: IIS, Apache
  + Databases: **SQL**: MS SQL Server 2014
  + Cloud: Azure development/Deployment
  + Tools: Azure Dev-Ops, Git, Visual Studio, TFS
  + Object Oriented Programming
  + Design Patterns
  + Data Structures
  + Algorithms
  + Familiar with basic Machine learning algorithms viz Linear regression, Logistic regression, natural language processing(NLP)
  + Familiar with basic Data analytics libraries in Python viz : Numpy, Pandas, MatPlotLib, SciKit
* MANEGERIAL SKILLS
* Team Leader
* Operations Management
* Process Optimization and Improvement
* Project Management
* Resource Mobilization
* Man Power Management
* Efficient B2C/B2B/Customer/Client/Vendor Dealing
* CERTIFICATIONS
* Software Architecture for Enterprise Architect
* Developing Microsoft Azure Solutions – AZ 203 