



## TECHNICAL PROFICIENCIES

- ✓ **Programming languages:** Python (Flask, FastAPI), C++, SQL
- ✓ **Machine Learning:** **Supervised Learning** (Linear/Logistic Regression, Decision Tree, Random Forest, SVM, KNN)  
**Unsupervised Learning** (K-Means Clustering, Market Basket Analysis),  
**Ensemble Models** (Random Forest, XGBoost, LightGBM, VotingClassifier, StackingClassifier)
- ✓ **GenAI Technologies:** Prompt Engineering, LLMs, RAG, Langchain, Agentic AI (BrowserUse + Playwright)
- ✓ **Cloud Services:** Azure Functions, Azure Cosmos DB, Azure Databricks, Azure Cognitive Search, Azure Event Grid, Azure Logic Apps
- ✓ **Data & Processing:** PySpark, NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn
- ✓ **Model Optimization & Evaluation:** GridSearchCV, RandomizedSearchCV, Cross-Validation, Confusion Matrix, ROC-AUC
- ✓ **Automation & Tools:** Power BI, GitHub, GitHub Actions, Postman
- ✓ **OCR & Web Scraping:** OpenCV, BeautifulSoup

## EDUCATION

B.Tech

National Institute of Technology Silchar

07/2019 – 05/2023

GPA: 8.68

12th standard (CBSE Board)

Gurukul Grammar Senior Secondary School

03/2016 – 03/2018

## CERTIFICATIONS

- [AI-102](#): Microsoft Azure AI Engineer Associate Certification
- [AI-900](#): Microsoft Azure AI Fundamentals Certification
- [AZ-900](#): Microsoft Azure Fundamentals Certification
- [Google Data Analytics Certificate](#)
- [SQL Certificate - HackerRank](#)
- [Python Certificate - HackerRank](#)

## WORK EXPERIENCE

### Optum Global Solutions Private Limited | Gurugram

#### SOFTWARE ENGINEER | 09/2023 – Present

##### PROJECT: Contact Insights | 09/2023 – 10/2024

- **Automated Optum Bank's Customer Support data flow pipeline:** Automated the extraction of key information from chats loaded in Azure Databricks, and tagging into pre-defined categories utilizing an **XGBoost** multi-class classification model with **GridSearchCV** tuning. Deployed into an Azure Function pipeline, and scheduled a Databricks job to run at regular intervals.
  - **Tech Stack:** Python, SQL, ML (XGBoost), Azure Cosmos DB, Azure Databricks.
  - **Benefit:** Increased operational efficiency by improving tagging accuracy by **12%** and reducing manual analysis workload.
- **Automated real-time Chatbot Evaluation Workflow:** Developed a RAG workflow triggered via Azure Event Grid to assign quality scores (Accuracy, Relevance, Helpfulness) to individual user-assistant interactions, as well as predict Coherence and Resolution Effectiveness scores for the entire conversation, using **XGBoost** regression models, with results stored in Cosmos DB.
  - **Tech Stack:** Python, RAG, ML (XGBoost), Azure Functions, Azure Cosmos DB, Azure Event Grid.
  - **Benefit:** Improved chatbot response quality, enhancing customer satisfaction.
- **Automated on-demand Newsletter Generation:** Developed a system to generate newsletter with dynamic insights on Customer Support issues, incorporating visualizations like pie charts and bar graphs. Enabled dynamic updates for selected chats.
  - **Tech Stack:** Python, LLM (AzureOpenAI), Prompt Engineering, Azure Functions.
  - **Benefit:** Boosted stakeholder engagement by **80%**, aiding in timely decision-making.

##### PROJECT: AI Advancements | 11/2024 – Present

- **Automated Code Documentation Generation for GitHub:** Implemented a GitHub Action that automatically generates code documentation for both new and existing files in PRs. This action triggers on new PRs and commits the documentation directly to the repository.
  - **Tech Stack:** Python, LLM (AzureOpenAI), Prompt Engineering, Azure Functions, GitHub Actions.
  - **Benefit:** Maintains 100% up-to-date documentation, and aiding new team members understand the codebase efficiently.
- **Automated UI Browser Testing by utilizing an Agentic AI framework:** Developed an Agentic AI framework with Langchain, BrowserUse, and Playwright. This setup utilizes Generative AI to dynamically generate automation scripts requiring minimal modifications.
  - **Tech Stack:** Python, Prompt Engineering, Langchain, BrowserUse, Playwright.
  - **Benefit:** Increased automated test coverage by 60%, significantly reducing manual testing efforts.

## SarvM.AI System Private Limited 🔗

DATA SCIENCE INTERN | 07/2022 – 01/2023

- **Recommendation Algorithms:** Analyzed and optimized recommendation algorithms for food commodities.
- **Delivery Optimization:** Determined the proper order in which packages should be allocated for delivery. Implemented K-Means clustering to group delivery points based on geographical proximity, and utilized the 2-Opt algorithm to iteratively improve delivery routes and find the **most efficient routes for deliveries**, minimizing the total travel distance and re-ordering the delivery data according to the optimized routes.
- **Market Basket Analysis:** Identified relationships between items in transactions and constructed recommendations based on these relationships. Implemented the recommendations, leading to a **30%** increase in sales from related items.
- **Customer Order Data Analysis:** Predicted **user re-orders** by employing machine learning models like: Logistic Regression, Random Forest, XGBoost Classifier, and LightGBM Classifier. Achieved a re-order prediction accuracy of approx. **96%** with **XGBoost Classifier** model. Deployed the model using **Flask**, enabling better inventory management and customer satisfaction.
- **Item Pricing Prediction:** Predicted **prices** of food items in India using historical price data for appropriate item pricing by employing machine learning models like: Linear Regression, Random Forest Regressor, and XGBoost Regressor. Achieved an accuracy of approx. **98%** with **XGBoost Regressor** model.

## Motlay Innovation Pvt Ltd 🔗

DATA SCIENCE INTERN | 05/2022 – 07/2022

- **Web Scraping:** Worked on Web Scraping in Python to extract data from various websites utilizing libraries such as BeautifulSoup, ensuring clean and structured datasets for analysis.
- **Automated Data Extraction:** Developed Python scripts to automate data extraction from Government ID cards (like Voter-ID card, Aadhar card, PAN card) using **OpenCV OCR**, and stored the extracted information for further use.
- **Company Data Analysis:** Analyzed data using **SQL** queries to gain insights into company sales statistics. Created an informative dashboard on Power BI for providing quick sales insights to support data-driven decision making.
- **Report Generation:** Worked on generating insightful reports and visualizations using **Power BI**.

## PROJECTS

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- **Heart Disease Prediction site** ([Website](#), [Source code](#))
  - Applied Machine Learning models: Logistic Regression, SVM, Random Forest Classifier, XGBoost Classifier, LightGBM Classifier, and Ensemble Models to predict if a person is affected by a heart problem or not. Utilized **RandomizedSearchCV** for hyperparameter tuning and achieved an accuracy of approx. **87%** with **XGBoost/LightGBM Classifier** models.
- **Item Pricing Prediction** ([Source code](#))
  - Applied Machine Learning models: Linear Regression, Random Forest Regressor, and XGBoost Regressor to predict prices of food items in India using historical price data for appropriate item pricing. Utilized **RandomizedSearchCV** for hyperparameter tuning and achieved an accuracy of approx. **98%** with **XGBoost Regressor** model.

## ACHIEVEMENTS

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- **Optum Financial AI Hackathon | 22/07/2024 – 02/08/2024**
    - Worked on a Chat Assistant prototype to assist support representatives in the card re-issuance process for MICROSOFT.
  - Received 3 **Diamond Awards** (highest rated award in Optum) for exceptional performance. 🔗
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