

# TUSHAR GARG

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## Summary:

Results-oriented IT professional with 20+ years of experience in Software development, designing, leading and delivering software solutions for major banks like Lloyds TSB, RBS, Barclays and Citibank. Manage portfolio worth 1.5 million annually with applications into post trade compliance and corporate actions, including vendor management, IT infrastructure, vulnerability & IT Risk, and E2E Application Management. Completed certifications from IIM-Kozhikode and Analytix lab into Machine Learning, Artificial Intelligence and GENAI. Coupled with technical knowledge and leadership skills, looking to lead AI, ML and GENAI projects to drive innovation. Working on a few AI proposals in my current role as Vice President in Citibank.

## Technical Skills

- **Languages/Frameworks:** Python, scikit-learn, Keras, Pytorch, SQL
- **ML:** Linear/Logistic Regression, Decision Trees, Random Forest, Boosting, SVM, Naive Bayes, KNN, PCA (Principle Component Analysis), K-Means Clustering, Hypothesis Testing, Model Validation.
- **Natural Language Processing:** NLP, Text Processing, Sentiment Analysis
- **Deep Learning:** ANN, CNN, RNNs (LSTM, GRU), SoM, RBM.
- **GENAI:** Autoencoders, RAG, LLMs, Transformers, Prompt Engineering
- **Tools/Platforms:** Pandas, NumPy, Matplotlib.

## Leadership Skills

- Team Leadership and Mentoring, Project Management (Agile, Scrum), Cross-functional Team Collaboration, Stakeholder Communication, Vendor Management, Strategic Planning and Road-map Development.

## AI/ML Projects :

- Developed Google Stock Price Prediction LSTM model using last 3 years historical data. Used ADAM optimizer and minimized loss using MSE.
- Developed a PD model using Logistics Regression for credit risk analytics on historical data of 5k customers. Used VIF, Somer D to reduce variables and finalized optimal cut off using confusion matrix.
- Developed Naive Bayes & KNN classification models with 90% accuracy to identify the target customers based on a Bank Marketing Case Study response of 10k customers. Performed EDA, followed by RFE (Recursive Feature Elimination) to introduce customized variables.
- Developed a K-Means model to segment customers based on type of credit card usage and used the insights (KPI's) generated to derive future card promotion campaigns. Identified components using PCA and factor analysis.

## AI/ML Proposed Use Cases:

- Proposed a LLM powered RAG implementation using LangChain to assist in migrations for vendor developed applications, which would improve efficiency by 50% in development and testing.
- Reading client invoices in unstructured pdf format via Instabase AI application to assist automation in expense management application.
- Anomaly detection in financial transactions using Generative Adversarial Networks (GANs) and Variational Autoencoders (VAEs) for refining sanction screening process.
- A seq2seq chatbox development using encoder decoder model in Keras having embedded, dense and LSTM layers on a customized Q & A dataset to support L3 function.
- Generate training data for new scenario testing using pre trained chatbox which would help to address data scarcity and bias issues while also taking care of ethical and privacy aspect.

## Professional Experience

### **VICE PRESIDENT – APPLICATION MANAGER**

**CITICORP SERVICES INDIA PVT. LTD. , Pune, MAHARASHTRA**

**November 2015 – Present**

- Lead a team of 10-12 members and responsible for E2E management of vendor applications (Charles River, XSP, CAM, Vermillion, MIG21) and in-house developed using Dot NET, JAVA 1.8, Spring boot 2.7, Oracle 19c, Kafka 3.4, Angular 16. Additionally uses autosys, Talend (ETL), MQ, SFTP and process SWIFTS (MT564/5/8).
- As BlueOptima Productivity Champ, worked with 12 chosen applications within the business unit to streamline operations while increasing efficiency by 15% YoY. The recent focus being on co-pilot, lightspeed and RoD.
- Provided leadership in key upgrades/migration projects by working with architects to implement new designs and solutions for efficient data retrieval and storage of 8 TB of data on MS-Azure.
- Managing Book of Work and Resource Planning with geographically dispersed team for applications.
- Developed a Classification model using Decision Tree with 84% accuracy for an internal company hackathon using datasets from Kaggle.

### **ASSISTANT VICE PRESIDENT- DATABASE CONSULTANT**

**BARCLAYS TECHNOLOGY, Pune, MAHARASHTRA**

**May 2013 – November 2015**

- Developed regulatory reports of FSA and SEBI regulators using Oracle PL/SQL, and providing guidance on regulatory issues impacting the organization's operations.
- Designed static, instrument, and trades feeds for aiding the STAR DWH team in developing a strategic platform for Sophis (Equity Derivative Tool) decommission.
- Designed the solution for MFT (multi factored template) instrument which lead to correct regulatory reporting on Oracle DB.

**SENIOR ASSOCIATE - DATABASE CONSULTANT****SAPIENT, Gurgaon, Haryana****May 2011 - May 2013**

- Developing automated solutions for EOD reconciliation process within ADM.
- Facilitated ARM (Automatic Release Management) through Bladelogic.

**CONSULTANT - DATABASE DEVELOPER****CAPGEMINI INDIA PVT. LTD. , Mumbai, MAHARASHTRA****May 2007 - May 2011**

- Worked as a lead designer in the project to integrate 3 UK banks and working on integration of HR and Sales systems.
- Implemented process improvements in managing the number recycling and number portability management systems for a Dutch telecom giant.

**SOFTWARE DEVELOPER****HEXAWARE TECHNOLOGIES PVT. LTD. , Mumbai, MAHARASHTRA****January 2004 - May 2007**

- Developed and maintained database/mainframe solutions around Demand forecasting, Bid Price Optimization, route generation and Allotment Manager Modules for clients of airline domain.

**Education & Certifications**

- **Advance Management Program for IT Professionals, IIM Kozhikode in 2023**
- **Machine Learning Certificate from Analytix Lab in 2020**
- **Project Management Professional by Princeton in 2012**
- **Bachelor of Engineering in Computer Science, M.A.I.E.T, University of Rajasthan, Jaipur**