SALONI CHANDOLIA
Location: Hyderabad, India **| Phone:** +91-8374772978 | **Email ID:** saloni6841@gmail.com
LinkedIn Profile: https://www.linkedin.com/in/salonicbusinessanatytics/

PROFESSIONAL SUMMARY

Innovative and result-oriented **AI & Data Science Professional** with over 10 years of experience delivering transformative solutions in **Machine Learning (ML)**, **Deep Learning (DL)**, **Generative AI**, and **advanced analytics** for global clients such as **Google, GCash, and Thomson Reuters**. Adept at building and deploying **AI-powered systems** that drive business growth and operational excellence, including a cutting-edge **retail surveillance system** leveraging IoT and computer vision for a client at Tech Mahindra.
Demonstrated expertise in:

- Developing scalable fraud detection pipelines (95% accuracy) and real-time anomaly detection systems.
- Creating NLP models using BERT (90.27% accuracy) to classify multilingual customer feedback.
- Designing Neo4j-based graph analytics for role-based segmentation, increasing campaign engagement by 30%.
- Leading cross-functional teams to deliver **end-to-end AI solutions** across cloud platforms such as **AWS SageMaker**, **TensorFlow Lite**, and **PyTorch**.

Proficient in **Python, SQL, SAS, Tableau**, and statistical modeling, with advanced certifications like the **AMPBA from ISB**. Skilled in aligning analytics with business objectives, mentoring teams, and operationalizing AI models to solve real-world problems at scale. Recognized for exceptional contributions with multiple awards, including **"Pat on the Back"** at Tech Mahindra.

EMPLOYMENT HISTORY

TECH MAHINDRA, ASSOCIATE BUSINESS CONSULTANT (TEAM LEAD - U4 BAND), MAY 2024 – PRESENT

Client: Confidential (Tech Mahindra PoC)
Objective: Developed an AI-based retail surveillance and insights system to analyze in-store customer behavior, optimize operations, and detect anomalies in real-time using IoT and advanced AI techniques.
Project Title: AI-Powered Retail Surveillance and Insights System
Role: Lead Architect – Computer Vision and AI
Key Contributions:
1. Computer Vision for Retail Analytics
   - Designed and implemented real-time object detection models using YOLOv5 to track customer movements, identify hot zones, and monitor shelf inventory.
   - Developed activity recognition models using 3D CNNs to identify customer actions like picking items, interacting with products, and queue formations.
2. Generative AI for Data Augmentation and Insights
   - Leveraged GANs to generate synthetic images for training, simulating various lighting and crowd density scenarios, reducing annotation effort by 40%.
   - Used GPT-3 to generate detailed insights and reports based on video data, such as customer engagement summaries and predicted sales trends.
3. IoT Edge Deployment
   - Deployed lightweight models using TensorFlow Lite on edge devices (e.g., Raspberry Pi and NVIDIA Jetson Nano), enabling low-latency real-time analysis in stores.
   - Integrated IoT sensors for environmental monitoring (e.g., temperature, crowd density) and combined data streams with AI insights.
4. Scalable Cloud Integration
   - Built a scalable backend using AWS SageMaker for training and deploying deep learning models.
   - Deployed APIs for real-time data collection and insights delivery using FastAPI.
5. Operational Efficiency and Anomaly Detection
   - Implemented anomaly detection systems using Autoencoders to flag unusual activities (e.g., theft, overcrowding).
   - Created an alert system integrated with store management software for proactive decision-making.
6. Leadership and Collaboration
   - Led a team of 5 engineers and data scientists, ensuring the timely delivery of the PoC within three months.
   - Collaborated closely with business stakeholders to align technical solutions with retail business goals.
   - Presented the solution to the client, emphasizing ROI and scalability potential for retail chains globally.

Technologies and Tools Used:
- Computer Vision: YOLOv5, OpenCV, Mask R-CNN, 3D CNNs
- Generative AI: GANs, GPT-3 APIs
- IoT Deployment: TensorFlow Lite, NVIDIA Jetson Nano, Raspberry Pi
- Cloud Platforms: AWS SageMaker, FastAPI, MLFlow
- Monitoring and Integration: Prometheus, Grafana, Flask

Outcome:
- Achieved 95% accuracy in detecting customer actions and 90% precision in detecting anomalies.
- Demonstrated 30% improvement in operational efficiency through actionable insights derived from AI models.
- Reduced edge device latency by 25%, enabling real-time decision-making for store managers.

- The PoC was well-received by the client and is now being scaled to a full production deployment across multiple stores.

- **Client: Google**
  - **Project 1: Roster Refresh – ORCA Cleanup:**
    - Led data cleaning and validation for artists and sub-labels in the ORCA system, improving data accuracy by 95%.
    - Utilized PLX scripts for SQL insights and Looker dashboards for automated reporting.
  - **Project 2: Whittle Project:**
    - Managed the aggregation and analysis of 3M+ asset-level records across 483 external parent company IDs to generate revenue and asset-level insights.
    - Optimized SQL pipelines for weekly data ingestion and reporting, reducing processing time by 30%.
  - **Project 3: Customer Segmentation and NLP for YouTube yGeist Survey:**
    - Applied BERT-based NLP models to classify multilingual customer feedback, achieving 90.27% accuracy in sentiment analysis.
    - Reduced manual feedback analysis time by 40%, enabling quicker decision-making.
    - Delivered actionable insights that improved YouTube's Partner Manager Program, resulting in a 25% increase in stakeholder satisfaction.
- **Client: GCash Projects (Chief Data Scientist):**
  - Fraud Detection Using Account Takeover (ATO) Models:
  - Led a team to develop an automated fraud detection pipeline using BDB.ai, processing millions of daily transactions.
  - Built machine learning models (Random Forest, Isolation Forest) to detect anomalies in geolocation mismatches, device activity, and transaction patterns.
  - Achieved 95% fraud detection accuracy, reduced false positives by 30%, and cut fraud resolution times by 60%.
  - Automated regulatory compliance workflows for Suspicious Transaction Reports (STR) and Reports on Crimes and Losses (RCL), ensuring full compliance with financial regulations.
- **Client: Thomson Reuters Projects (Chief Data Scientist):**
  - Customer Segmentation Using Graph Analytics:
  - Designed and implemented a Neo4j-based graph model to segment customers into Decision-Makers, Influencers, and End-Users, focusing on role-specific targeting and hierarchical relationships.
  - Applied Graph Algorithms (e.g., PageRank, Community Detection) to uncover key personas and their influence within organizational structures.
  - Increased campaign engagement by 30% through role-specific messaging and personalized communication strategies.
  - Mentored and guided a team of 4 members, ensuring alignment with project goals and timely delivery of results.

SENIOR BUSINESS ANALYST III – RANDSTAD OFFSHORE SERVICES, HYDERABAD (Feb-05-2024 to May-23-2024)

- **Project: Customer Segmentation Analysis for an International Banking Client**
  - Objective: The client aims to better understand their customer base, target marketing campaigns, personalize banking services, and improve customer satisfaction and retention.
  - Tools & Techniques: SQL, Alteryx, Python, Tableau.
  - Key Activities:
    - Data Extraction: Employing SQL queries to extract customer transaction data from the banking client's database.
    - Data Preparation: Cleaning and preparing the data in Alteryx, addressing missing values and transforming data into a usable format.
    - Engineering new features such as total transaction amount, frequency of transactions, and average transaction amount per customer.
    - Segmentation Analysis: Utilizing clustering algorithms in Alteryx to segment customers based on their banking behavior and demographics.
    - Applying Python scripts for advanced statistical analysis and validation of clustering results.
    - Integration with Tableau: Integrating Alteryx output with Tableau to visualize customer segments. Creating interactive dashboards in Tableau to present the segmentation results, including key metrics and visualizations.
  - Outcome:
    - Expected to improve customer satisfaction and retention by 20% through personalized banking services and targeted marketing campaigns.
    - Enhance the bank's ability to identify and cater to distinct customer needs, leading to increased customer loyalty and profitability.

CAREER BREAK (24-Feb-2022 to 4-Feb-2024)

- Took an intentional pause to focus on caregiving of my child who is three years old now.
- Along with that, I have also completed my Advanced Management programme in Business Analytics (AMPBA) from Indian School of Business (ISB) Hyderabad.

BID MANAGER / BUSINESS DATA ANALYST / STATISTICIAN – SMART IMS, INC., HYDERABAD (Mar-06-2019 to Feb-24-2022)
During my tenure with Smart IMS, I have worked with an international banking client and played a crucial role of business analyst and statistician. I have directly worked with client Analytics team to build the credit risk model; credit scorecard; fraud detection and prevention model; customer profiling and segmentation; and performed many experimental designs like A/B testing. Provided complex analytical support through the analysis and interpretation of data in support of cross-functional business operations. Developed, prepared, and analyzed reports using with complex analysis and data for management review, and presented to various levels of management. Tools used: Excel, SQL, Python, Tableau, Alteryx, and SAS.

- **Project 1: Statistical Credit Risk Modeling, Probability of Default Prediction, and Credit Scorecard Development**
  - Objective: Developed a data-driven credit risk model to predict the probabilities of default (PD) and assign credit scores to existing or potential borrowers.
  - Tools & Techniques: SQL, Alteryx, SAS, Python, EDA, Data Cleaning, Feature Selection (Chi-squared test for categorical features and ANOVA F-statistic for numerical features), One-Hot Encoding, Weight of Evidence (WoE) and Information Value (IV) for feature engineering.
  - Key Activities:
    - Analyzed and prepared dataset using SQL scripts. Treated missing values and outliers.
    - Calculated the pair-wise correlations of the top 20 numerical features to detect any potentially multicollinear variables.
    - Fitted a logistic regression model on the training set and evaluated it using RepeatedStratifiedKFold.
  - Evaluation Metric: Achieved an Area Under the Receiver Operating Characteristic Curve (AUROC) of 0.85, indicating high model performance.
  - Outcome: Reduced the default rate by 15% through improved credit risk assessment and prediction accuracy.

- **Project 2: Credit Card Fraud / Anomaly Detection**
  - Objective: Track transaction patterns to identify and abort any abnormal transactions.
  - Tools & Techniques: SQL, Alteryx, SAS, Python, EDA, Data Cleaning, Feature Selection, SMOTE for handling imbalanced datasets, Scaling, PCA for dimensionality reduction, heatmap and VIF for correlation analysis.
  - Key Activities:
    - Analyzed and prepared dataset with SAS. Treated missing values and outliers. Encoded categorical variables.
    - Built ML models to classify abnormal transactions using Local Outlier Factor, Isolation Forest, Decision Tree, K-Nearest Neighbors, Logistic Regression, Support Vector Machines, and Random Forest.
  - Evaluation Metrics:
  - Achieved an F1-score of 0.78 and an Area Under the Precision-Recall Curve (AUPRC) of 0.81, demonstrating effective fraud detection.
  - Outcome: Reduced false positives by 20% and identified 95% of fraudulent transactions, significantly improving fraud detection capabilities.

- **Project 3: Customer Profiling and Segmentation**
  - Objective: Classify customers into profitable or non-profitable buckets. Profile profitable customers into various segments to customize product offerings and increase overall business.
  - Tools & Techniques: SQL, Alteryx, SAS, Python, EDA, Data Cleaning, K-means clustering, Scorecard technique.
  - Key Activities:
    - Formulated a customer-based scorecard by providing numeric scores using a box plot and weightages based on product holdings and transactional history.
    - Segregated the profitable customer base into different segments using K-means clustering.
  - Outcome: Increased cross-sell and up-sell rates by 25% through targeted marketing strategies based on customer segmentation. Boosted overall profitability of the bank by 18% by identifying and focusing on the most profitable customer segments.

- **Tableau Reporting Project 1: Credit Risk Assessment**
  - Objective: Provided comprehensive insights into the credit risk assessment process for a bank.
  - Tools & Techniques: SQL, Alteryx, Tableau.
  - Key Activities: Visualized key metrics such as Credit Score Distribution, Loan Approval/Rejection Rates, Default Rates by Risk Segment, Credit Utilization Trends, Risk Exposure by Product Type, and Customer Demographics Impact.
  - Outcome: Enhanced decision-making efficiency by 30% through real-time visualization of credit risk metrics.

- **Tableau Reporting Project 2: Card Fraud Detection**
  - Objective: Provided real-time insights into transaction patterns and identify potentially fraudulent activities.
  - Tools & Techniques: SQL, Alteryx, Tableau.
  - Key Activities: Created dashboards for Transaction Volume and Value, Geographical Heatmap of Transactions, Transaction Frequency by Cardholder, Merchant Category Analysis, Alerts and False Positives, Transaction Anomalies Dashboard.
  - Outcome: Improved fraud detection response time by 40% and reduced fraud-related losses by 25% with real-time monitoring and alerts.

- **Experimental Design: Project 1: Digital Banking User Experience Optimization**
  - Objective: Improved the user experience and engagement on a bank's digital platform by experimenting with different interface designs.
  - Experimental Design:
    - Randomized Controlled Trial (RCT): Randomly assign digital banking users to different versions of the interface - Version A (current design) and Version B (new design).
    - Blocking: Stratified users based on factors like account type, age, and digital literacy to ensure balanced representation in both groups.

- Data Collection: Collected user engagement metrics, such as time spent on the platform, frequency of logins, and completion of transactions.
- Statistical Test:
  - Paired t-test or Wilcoxon signed-rank test: Compared the mean or median differences in user engagement metrics between Version A and Version B.
  - Null Hypothesis (H0): There is no significant difference in user engagement between the two interface versions.
  - Alternative Hypothesis (H1): The new interface design leads to a significant improvement in user engagement.

- **Experimental Design: Project 2: Credit Scoring Model Enhancement**
  - Objective: Enhanced the accuracy of the credit scoring model to better assess the creditworthiness of loan applicants.
  - Experimental Design:
    - Factorial Experiment: Tested the impact of two factors - inclusion of additional financial variables (Factor A) and modification of the weightage given to existing variables (Factor B).
    - Random Assignment: Randomly assigned loan applications to four groups: Control (current model), A (additional financial variables), B (modified weightage), and AB (both factors).
    - Blocking: Stratified applications based on risk profiles to ensure balanced representation in each group.
    - Data Collection: Recorded the performance of each model by comparing predicted creditworthiness with actual repayment behavior.
  - Statistical Test:
    - Analysis of Variance (ANOVA) or Regression Analysis: Evaluate the impact of different factors on the accuracy of credit scoring models.
    - Null Hypothesis (H0): There is no significant difference in the predictive accuracy among the different models.
    - Alternative Hypothesis (H1): At least one factor significantly improves the accuracy of the credit scoring model.
  - Results and Interpretation:
    - The statistical analysis (ANOVA or Regression Analysis) indicates a statistically significant difference in the predictive accuracy among the different credit scoring models (Control, A, B, AB). Since the null hypothesis is rejected, which suggested that at least one factor (either the inclusion of additional financial variables or the modification of weightage or both) has a significant impact on the accuracy of the credit scoring model.

PRESALES LEAD / BUSINESS ANALYST– VALUELABS LLP, HYDERABAD (MAY-03-2018 TO FEB-22-2019)

- Worked with Project Managers, Senior Management, and Other Stakeholders to define project scope, plan, and requirements.
- Conducted detailed and comprehensive business analysis by working with other BAs, IT developers, financial analysts, and end-users, to identify system and operational requirements and improvements. Assisted client in the development of business requirements, including identification of opportunities for improvement and optimization of business processes. Created business requirements documents for technical solutions and supported technical teams during the development cycle.

PRESALES LEAD / BUSINESS ANALYST – VERTEX COMPUTER SYSTEMS, INC., HYDERABAD (OCT-08-2014 TO APR-27-2018)

- Project: P&G Sales Data Analysis and Visualization
  - Objective: The goal of this project was to analyze and visualize P&G's sales data to provide actionable insights for improving sales strategies, optimizing inventory, and identifying market trends.
  - Tools & Techniques: SQL, Alteryx, Tableau.
  - Key Activities:
    - Data Extraction and Preparation using SQL:
      - Employed SQL queries to extract sales data from P&G's database, including transactional data, product information, and customer demographics.
      - Joined multiple tables to create a comprehensive dataset.
      - Filtered and aggregated data to focus on key metrics such as sales volume, revenue, and customer segments.
    - Data Cleaning and Transformation using Alteryx:
      - Imported the extracted data into Alteryx for further cleaning and transformation.
      - Addressed missing values, removed duplicates, and standardized data formats.
      - Engineered new features such as sales growth rate, average transaction value, and customer lifetime value.
      - Created workflow automation in Alteryx to ensure repeatable and efficient data processing.
    - Data Analysis using Alteryx:
      - Conducted exploratory data analysis (EDA) to identify trends, patterns, and anomalies in the sales data.
      - Applied statistical methods to understand correlations and causations within the data.
      - Utilized Alteryx predictive tools to forecast future sales and identify potential opportunities and risks.
    - Data Visualization using Tableau:
      - Integrated Alteryx output with Tableau for visualization.
      - Developed interactive dashboards in Tableau to present key sales metrics and trends.
      - Created visualizations such as sales heatmaps, time-series analysis, and product performance comparisons.
      - Designed a sales performance dashboard to track real-time sales data, regional performance, and product-wise sales distribution.
  - Outcome:
    - Improved sales forecasting accuracy by 25%, enabling better inventory management and reducing stockouts.
    - Identified top-performing products and regions, leading to a 15% increase in targeted marketing effectiveness.
    - Enhanced decision-making capabilities with real-time sales dashboards, contributing to a 20% boost in overall sales performance.

BUSINESS PROPOSAL COORDINATOR EXECUTIVE – ZOLON TECH, INC., HYDERABAD (MAR-12-2013 TO SEP-12-2014)
BUSINESS DEVELOPER / ANALYST – NUTSITLAB PVT. LTD., CHANDIGARH (JUL-10-2012 TO FEB-28-2013)

EDUCATION

- Advanced Management Programme in Business Analytics (AMPBA), Indian School of Business (ISB), Hyderabad (July 2021 – Nov 2022)
- Master of Science in Information Technology (M.Sc. – IT), Panjab University, Chandigarh (2010 – 2012), 73%
- Bachelor of Computer Applications (BCA), Kurukshetra (2005 – 2008), 58%
- 10+2 Level (Intermediate), CBSE, Chandigarh (2004 – 2005), 60%
- 10th Grade (Matriculation), CBSE, Chandigarh (2002 – 2003), 59%

AWARDS

- "Pat on the Back" - Tech Mahindra, 2024
- Difference Maker Award - Smart IMS, Inc. 2020
- 'Star Performer of the Year 2017' Award - Vertex Computer Systems, Inc. 2017
- Certificate of Appreciation from Zolon Tech, Inc