Priyanshu Khandelwal

Priyanshu.growth@gmail.com | +91-8982542474

LinkedIn GitHub Medium Portfolio

Bachelor's in Computer Science (2012-2016)

SUMMARY

Senior Data Scientist with 8.5 years of experience designing and implementing impactful ML solutions across diverse domains including supply chain, digital advertising, e-commerce, and SEO. Proficient in building robust, scalable ML systems that deliver measurable business value. Skilled in leading cross-functional teams to translate complex business problems into data-driven solutions with demonstrated ROI. Expertise in predictive modeling, NLP, generative AI, and customer behavior analysis. Fluent in English and intermediate French (A2 level).

SKILLS

- **Programming:** Python, SQL, Visual Basic for Application, Data Structures and Algorithms, OOPs
- **Frameworks & APIs:** PySpark, Scikit-Learn, TensorFlow, Pytorch, Keras, NumPy, Pandas, Matplotlib, OpenAI, LLM, Gensim, MLlib
- **Machine Learning:** Regression, Tree-based Algorithms (XGBoost, Random Forest, CatBoost, LGBM), Deep Learning, Clustering, NMF, PCA, SVM, Word2Vec, BERT, Anomaly Detection
- **Data Science:** Statistical Analysis, A/B Testing, Feature Engineering, Data Pipeline Design, Storytelling, NLP, GenAI
- **Visualization/Insights:** Microsoft Excel, Looker Studio, Power BI, Sisense, Grafana
- **DevOps & Deployment:** AWS, MLOps, Git, Docker, Jupyter, VS Code, MLFlow, Flask, Streamlit, FastAPI, Kafka, Azkaban
- **Languages:** English (Fluent), French (A2 Level)

EXPERIENCE

Fourkites India
Staff Data Scientist (ETA Prediction, Supply Chain)

Chennai, Tamil Nadu
May 2024 – Present

- **MCMH:** Led development of an advanced ETA prediction system using innovative **MCMH Regressor + Classification approach**, enhancing delivery time accuracy by 28% across a regional distribution network serving 150+ enterprise clients
- **ETA forecasting methodology:** Redesigned ETA forecasting methodology by incorporating machine learning models and clustering techniques tailored to Origin-Destination (OD) patterns, achieving a 22% reduction in customer complaints and generating **$450K** in annual operational cost savings
- **Similar Shippers Identification:** Developed a custom in-house algorithm to intelligently identify and categorize shippers based on delivery patterns, geographic routes, and operational characteristics, enabling more precise logistics optimization and partner segmentation
- **Data pipeline optimization:** Orchestrated data pipeline optimization that reduced processing time **by 35%** while maintaining prediction accuracy, significantly improving system scalability for growing client base
- **Monitoring:** Spearheaded a cross-functional team of 8 to architect and launch unified monitoring dashboards for both shadow and production ML deployments, integrating real-time drift-detection alerts; **slashed PM analysis time by 83 %** (from 2 h to 20 min)

Paytm Ads
Senior Data Scientist (Digital Advertising, User targeting)

Noida, Uttar Pradesh
Aug 2022 – May 2024

- **Real Time Campaign Selection:** ML-driven customer-level scores using **CatBoost and Logistic Regression** for precise advertisement targeting, projecting a **12% monthly revenue boost**. Instant campaign selection ensures optimal ad delivery, **maximizing performance (CTR and eCPM).**
- **GenAI POC for revenue uplift:** Implemented **XGBoost** model integrating **visual creative & advertiser features using GPT-4 text & vision API**. POC saw up to **13% performance gain**. This led to significant impressions inventory saving, potentially yielding **~5% monthly revenue increase**.
- **Audience Targeting:** Designed a model to **segment and target users akin to high-performing ones in advertiser or category**. Aim was to enhance campaign result and advertiser ROI. ML segments showed **~60% higher CTR** than rule-based, boosting our platform's **CTR by 15%.**
- **Customer Persona:** Identified **customer personas** for Paytm Ads and created cohorts of customers based on behavior on Paytm app and ads. This helped us to understand hidden patterns**, good/avg customers and active/dormant customers** for 1p and MOA.

Adobe Inc.
Data Scientist, Adobe.com (Search Engine Optimization, SEO)

Noida, Uttar Pradesh
May 2021 – Jul 2022

- **Migration Tracking:** Analyzing daily/weekly traffic change in Adobe.com and highlighting it to leadership on regular basis. This helped to track the migration of Adobe's subdomains and **migration's impact on conversion and revenue**.
- **Outreach project**: Created an **ML based model to understand the impact of outreach on organic traffic**. This model is used by managers to estimate future efforts and ROI on their investments in backlink acquisitions. Estimated revenue jump was around **$50k per month**.

- **Anomaly and Contribution Analysis Model:** Managed a team of five including two interns to create **an ensembled model using Isolation Forest and SGD to detect anomaly in Adobe's traffic** & orders based on weekly KPIs and identify contributing factors.
- **Position Tracking Algorithm:** Developed a simple but efficient **Adobe internal algorithm using Random Forest and K-Means to understand changes in URL position** over period of a time, which helped understand our SEO efforts over time.
- **Identifying Similar Keywords and Creating Themes:** Used **Word2Vec** to create **cosine similarity-based model** to create **themes out of 1M keywords**. These themes were used to identify new SEO opportunities.
- **Multiple Analytics Projects:** Handled multiple insights and analytics projects which were shared with higher leadership to understand the impact of various efforts in SEO to bring more organic traffic. These efforts helped **forecast a revenue of $4M for CC & DC Adobe clouds**.

➢ **Dunnhumby India**   *Gurgaon, Haryana*
Senior Data Scientist, UK Based Client (Ecommerce + Retail)   *Sep 2019 – May 2021*

- **Point of Market Entry:** Built a module to identify clearly defined entry point for customers. The target was to understand which products customer prefer when they are buying into specific category.
- **Front of Store Missions/Themes:** FOS includes multiple categories making it hard to analyze, needs of customers. Using **NMF and Clustering** on 7M baskets, we created a mission view for vital FOS objectives, **revealing shopper engagement patterns and basket composition**.
- **POS Customer Segmentation:** Built a model to tag customers based on available historic customer segmentation that splits customers based on life stage & affluence. This helped to understand **profiles of POS Customers**
- **Identifying Cannibalization:** Client reported inverse sales behavior after they launched new products. We hypothesized this problem as cannibalization and justified it using **Natural Language Processing model based on string matching algorithms** & user behavior analysis.

➢ **Tata Consultancy Services**   *Noida, Uttar Pradesh*
Data Science and Analytics (Retail + Healthcare)   *Jan 2017 – Aug 2019*

- **Apple Sales Forecasting:** Worked on **ML modelling for Apple Sales to forecast apple devices sales** for upcoming months.
- **MySupply project**: Tracked routine changes in Apple devices for every device (outside India Region). The task was to coordinate with business and send them regular insights about the impact of those changes in business.
- **Change Ownership:** Led changes for client software requirements, managed a diverse team and ensured smooth business processes.

──────────── **TECHNICAL INNOVATIONS & RESEARCH PROJECTS** ────────────

- ♦ **MCMH Regressor + Classification for ETA Prediction (Fourkites, 2023-2024):** Developed a novel hybrid approach combining Monte Carlo Markov Chain methods with hierarchical regression and classification techniques to improve ETA prediction accuracy. This method adaptively handles multimodal transportation factors and dynamically adjusts predictions based on real-time conditions.

- ♦ **Backlink Attribution & SEO Ranking Algorithm (Adobe, 2021-2022):** Created a statistical model and algorithm to quantify the precise relationship between backlink acquisition strategies and SEO ranking improvements. The model incorporated over 50 backlink quality factors and established predictive curves for determining optimal backlink investment to achieve target ranking positions.

- ♦ **Real-Time Ad Selection System Architecture (Paytm, 2022-2023):** Designed a multi-level scoring and normalization framework for millisecond-level ad selection decisions, integrating ML prediction scores with business constraints and contextual relevance signals.

──────────────────────── **AWARDS** ────────────────────────

- ♠ **Adobe: Won Quarterly award (2021-Q4)** and **Quarterly award (2022-Q1)** subdomain migration and insightful model for Adobe's outreach.
- ♠ **Dunnhumby:** Received **4 Well Dunn (appreciations)** for Individual Contribution and leadership roles.
- ♠ **TCS:** Received **2 Spot Awards and 1 Quarterly Award** for contribution in analytics and automation work**.**