# Senior Machine Learning Engineer - Predictive Analytics Specialist

**Location:** Remote
**Experience Level:** Senior (5+ years)
**Employment Type:** Full-time

## About This Role

We're building an advanced analytics platform powered by cutting-edge AI and SLM technologies. We're seeking a seasoned Machine Learning Engineer specializing in predictive analytics to extract key insights from diverse unstructured data sources, develop sophisticated correlation models, and build actionable predictive intelligence systems.

## Key Responsibilities

- Extract key insights using pattern recognition to develop predictive analytics from multiple unstructured data sources
- Build custom analytics models for complex problems with streaming data, raw text data, and social media feeds
- Process and analyze unstructured data from diverse sources including web analytics, social media, and user behavior streams
- Build correlation engines that identify patterns across disparate data types and sources
- Develop propensity scoring models to predict user behaviors and likelihood of specific actions
- Create lookalike modeling and audience segmentation algorithms for targeted campaigns
- Design real-time segmentation systems with sub-second response times for immediate targeting
- Develop anomaly detection systems for proactive monitoring and alerting
- Implement advanced personalization engines using AI-based content recommendations

## Required Qualifications

- **5+ years** of machine learning engineering experience with focus on predictive analytics
- **3+ years** working with unstructured data processing and correlation analysis
- Strong background in building production ML systems for user behavior prediction
- Expert-level Python, SQL, R for statistical modeling
- Experience with PyTorch, TensorFlow, Scikit-learn, XGBoost for predictive modeling
- Big Data processing with Spark, Hadoop, Kafka for streaming and unstructured data
- Cloud platforms (AWS, GCP, or Azure) with focus on data processing services
- Deep expertise in time-series forecasting, anomaly detection, and pattern recognition
- Strong knowledge of propensity modeling, churn prediction, and customer lifetime value models
- Advanced skills in clustering, segmentation, and dimensionality reduction techniques

## Preferred Qualifications

- Experience with social media campaign analytics and optimization
- Background in media/publishing analytics platforms and customer engagement tools
- Knowledge of audience segmentation and lookalike modeling techniques
- Experience building real-time personalization systems
- Familiarity with marketing attribution models and multi-touch analytics
- Previous work with customer data platforms (CDPs) and identity resolution

## What We Offer

- **Remote-First Culture:** Work from anywhere with flexible hours
- **Learning & Development:** Continuous learning opportunities with latest ML technologies
- **Cutting-Edge Projects:** Build next-generation predictive analytics platform
- **Impact:** Shape how businesses understand and engage with their audiences
- **Innovation Environment:** Work with state-of-the-art AI/SLM technologies
- **Comprehensive Benefits:** Health, dental, vision, and wellness programs

## Our Tech Stack

- **Languages:** Python, R, SQL, Scala
- **ML/Analytics:** PyTorch, TensorFlow, Spark MLlib, Prophet
- **Data Processing:** Apache Spark, Kafka, Airflow, Databricks
- **Databases:** PostgreSQL, MongoDB, Elasticsearch, Redis
- **Cloud:** AWS (SageMaker, EMR, Kinesis), GCP (BigQuery, Dataflow)
- **Analytics Tools:** MLflow, Tableau, Looker for visualization

## Application Process

1. **Initial Screen:** Technical conversation about your ML experience
2. **Technical Interview:** System design and ML architecture discussion
3. **Coding Challenge:** Take-home ML engineering problem
4. **Final Round:** Team fit and leadership assessment

## Ready to Apply?

Send your resume along with:

- Link to your GitHub/portfolio showcasing ML projects
- Brief cover letter explaining your interest in the role
- Any relevant publications or open source contributions

We're committed to building a diverse and inclusive team. We encourage applications from all backgrounds and experiences.