

## Job Title: Senior Machine Learning Engineer – Fintech

**Location:** Hybrid (New York, NY or Remote)

**Department:** AI/Payments Intelligence

**Reports To:** Director of Machine Learning

**Employment Type:** Full-time

### Job Overview

We are looking for a **Senior Machine Learning Engineer** with deep technical expertise and fintech industry experience to join our Payments Intelligence team. This role will focus on building and optimizing real-time fraud detection models and transaction analytics systems. A strong understanding of **payment protocols such as ISO 8583** is required, along with experience deploying ML models at scale in high-stakes financial environments.

### Key Responsibilities

- Develop robust ML models for real-time fraud detection, anomaly detection, and transaction categorization.
- Ingest and process structured financial transaction data compliant with **ISO 8583**, EMV, and related standards.
- Collaborate with product and security teams to define data pipelines and integrate models into real-time authorization workflows.
- Build scalable infrastructure for training, testing, and monitoring models in a high-throughput, low-latency environment.
- Analyze billions of financial transaction records to identify patterns, trends, and risk signals.
- Stay up to date on global fraud trends, regulatory considerations, and emerging ML technologies.
- Provide mentorship and technical leadership to junior ML engineers and data scientists.

### Hard Skills (Technical Requirements)

- **Machine Learning Expertise:** Supervised learning, anomaly detection, time-series forecasting, model interpretability.
- **Programming Languages:** Expert-level Python; familiarity with Java or Scala is a plus.
- **ML Frameworks:** PyTorch, TensorFlow, Scikit-learn.
- **Protocol Knowledge:** Strong understanding of **ISO 8583** (field definitions, MTIs, transaction lifecycles), plus exposure to EMV, ISO 20022, or SWIFT standards.
- **Data Handling:** Advanced skills in SQL, Spark, and data modeling for financial systems.

- **Production ML Engineering:** MLOps tools (MLflow, TFX), containerization (Docker), orchestration (Airflow, Kubernetes).
- **Cloud Platforms:** AWS (especially SageMaker and Kinesis), GCP, or Azure.

## Soft Skills (Interpersonal & Leadership Expectations)

- **Analytical Thinking:** Ability to model complex transactional behavior and draw actionable insights from noisy datasets.
- **Business Alignment:** Comfortable translating business risk scenarios into ML use cases.
- **Cross-functional Collaboration:** Experience working closely with fraud analysts, payment systems engineers, and compliance teams.
- **Leadership:** Proven ability to lead technical initiatives and mentor team members across disciplines.
- **Communication:** Able to articulate ML concepts and tradeoffs clearly to non-technical stakeholders.

## Qualifications

- Bachelor's or Master's in Computer Science, Data Science, Applied Math, or a related field (PhD preferred).
- 5+ years of experience in ML engineering, with at least 2 years in the **financial services or payments industry**.
- Hands-on experience working with ISO 8583 and implementing ML models within or adjacent to card processing systems.
- Strong understanding of security, privacy, and regulatory requirements in fintech (PCI DSS, PSD2, etc.).

## What We Offer

- Highly competitive salary and equity packages.
- Comprehensive health, dental, and vision insurance.
- Annual bonus tied to fraud prevention KPIs and business impact.
- Remote flexibility with optional access to NYC HQ.
- Access to high-volume real-world data, and opportunities to publish internally approved research.
- Mission-driven team focused on making financial systems safer and smarter through AI.