

# Internship Opportunity: Machine Learning/Deep Learning Intern for AI Agent Lab (Live Data Stream Focus)

## Job Description:

We are looking for an enthusiastic intern with experience in **Machine Learning (ML), Deep Learning, and Neural Networks** to join our **AI Agent Lab** project. The primary focus will be on creating **live data stream processing notebooks** specifically for **market data** in conjunction with machine learning notebooks.

The AI Agent Lab already provides a seamless interface for managing and querying data, visualizing results, and real-time coding using GPT-3.5 models. We aim to expand the project's capabilities by adding ready-to-use **live data stream processing notebooks** integrated with machine learning models. These will allow users to experiment with **market data** and **ML algorithms** in real-time, providing a streamlined environment for data scientists.

## Your Role:

- Develop notebooks that handle **live data streams**, specifically focused on **market data** (e.g., stock prices, financial data, cryptocurrency) in conjunction with **machine learning models**.
- Integrate machine learning models into these notebooks for tasks such as:
  - Predicting market trends (regression)
  - Detecting patterns (clustering, classification)
  - Time-series analysis for financial forecasting
- Use **TA-Lib** for technical analysis and integrate its functions into the notebooks to process market data.
- Ensure the notebooks are optimized for use with GPT-3.5 models, providing a simple and clear workflow for users to follow.
- Collaborate with the team to create and integrate machine learning templates for quick experimentation with live market data.
- Explore the potential integration of other live data sources (Twitter API, financial news, etc.) for additional context and insights.

## Responsibilities:

- Create, test, and maintain notebooks designed to process and analyze **live market data streams** alongside machine learning models.
- Use **TA-Lib** to implement technical analysis algorithms in the data processing notebooks.
- Develop and implement machine learning algorithms such as **classification, regression, and time-series forecasting** models.
- Collaborate on building **NLP models** for tasks like **sentiment analysis** of financial news or social media data related to market movements.
- Ensure the notebooks are user-friendly, providing templates for those new to **data science** and **machine learning**.

## Preferred Skills:

- **Experience** with ML and Deep Learning models, particularly in real-time applications like **market data**.

- Proficiency in **Python**, especially libraries like **TensorFlow**, **PyTorch**, **Scikit-learn**, **Pandas**, **NumPy**, and **TA-Lib**.
- Familiarity with **data streaming** technologies and APIs (e.g., **WebSockets**, **financial APIs**).
- Strong knowledge of **time-series analysis**, **regression models**, and **NLP** for financial data.
- Understanding of the financial markets and their data is a **plus**.

## Internship Details:

- **Position:** Remote Intern (AI Agent Lab - Market Data)
- **Stipend:** ... per month
- **Start Date:** October 1, 2024
- **Duration:** 3 months, with potential for extension based on performance
- **Work Mode:** Remote

## How to Apply:

Submit your application with examples of past projects, particularly those related to **real-time data processing** or **market data analysis**. Please include your experience with **machine learning** and **deep learning models**, especially those focused on financial or live-streaming data, and your experience using **TA-Lib** for technical analysis.