**PSG COLLEGE OF TECHNOLOGY, COIMBATORE – 641 004**

**DEPARTMENT OF COMPUTER APPLICATIONS**

**23MX37 - MINI PROJECT**

**Project Progress Report**

**Date:** July 29, 2025

**Project Title:** Bitcoin Price Prediction using Social Sentiment and Technical Indicators

**Batch:** 3

**Phase 1: Project Setup**

* The project folder bitcoin-sentiment-ml has been initialized.
* A virtual environment has been created and configured with essential dependencies including pandas, scikit-learn, matplotlib, tweepy, and openai.
* Git version control has been set up to manage project revisions.

**Phase 2: Feature Engineering (BTC Price Data)**

* Historical Bitcoin price data has been loaded and cleaned.
* Core technical indicators have been engineered, including moving averages, RSI, and MACD.
* Feature engineering work is complete and saved in btc\_features.ipynb.

**Phase 3: Tweet Scraping and Sentiment Labeling *(In Progress)***

**Setup:**

* Applied for and obtained access to the Twitter/X Developer Platform (Free Tier).
* Bearer token authentication has been securely configured using a .env file.

**Tweet Collection:**

* Transitioned from snscrape to the official Twitter API using the tweepy library due to recent restrictions on historical scraping.
* Developed and tested scrape\_tweets.py to collect real-time tweets containing Bitcoin-related keywords (limited to the last 7 days, as per API restrictions).

**Next Steps:**

* Perform data cleaning and preprocessing on collected tweets.
* Use OpenAI's GPT API to label tweets with sentiment scores.
* Store the labeled tweets for supervised machine learning training.