Progress Report: LLM Scheduling Optimization Framework

This document summarizes the implementation progress of the research paper on optimizing Large Language Model utilization using predictive modeling and multi-objective optimization.

Completed Work

- Dataset ingestion and feature extraction
- MLBP predictor (Random Forest, XGBoost)
- Probability matrix computation
- Multi-objective optimization (Random Search, NSGA-II, SPEA2)
- Evaluation metrics IGD, Δ, M■
- Multi-run statistical analysis
- Local LLM (Ollama) integration

Current Status

The core framework described in the paper has been implemented and validated through controlled experiments.

Next Steps

Scaling experiments, stabilizing real LLM labeling, and extending evaluation across models.