

Employee Productivity Prediction - Full Project Report

This document provides a comprehensive overview of the Employee Productivity Prediction project. It connects all phases of the project: Initialization & Planning, Data Collection & Processing, Model Development, and Model Optimization & Tuning. Each phase is summarized below with references to the detailed reports provided in separate documents.

Phase 1: Project Initialization and Planning

This phase involves defining the project scope, objectives, and stakeholders. It includes identifying resources, setting timelines, and creating a risk assessment plan. For detailed insights, refer to the 'Project Initialization and Planning Phase' PDF.

Phase 2: Data Collection and Processing

In this phase, the dataset on garments worker productivity is collected and preprocessed. Tasks include handling missing values, converting specific columns like 'quarter', 'department', and 'day' into categorical values, and ensuring data quality. Detailed steps are documented in the 'Data Collection and Processing Phase' PDF.

Phase 3: Model Development

Here, multiple machine learning models such as Linear Regression, Random Forest, and XGBoost are developed and trained. Feature selection is performed, and the models are evaluated based on performance metrics. More information is available in the 'Model Development Phase' PDF.

Phase 4: Model Optimization and Tuning

This phase focuses on improving the model's performance through hyperparameter tuning and performance comparison. The best-performing model is selected for deployment. Detailed documentation is available in the 'Model Optimization and Tuning Phase' PDF.

The completion of all these phases has resulted in a robust Employee Productivity Prediction system. The project integrates data preprocessing, model building, and optimization into a single workflow, providing accurate productivity predictions for garment workers based on various features.