

# Unemployment & Skill Gap Analysis – Full Project Documentation

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## 1. Purpose

The purpose of this project is to analyze unemployment patterns and identify skill gaps across India using verified, government-approved datasets. The analysis will support policy formulation, strategic workforce planning, and evidence-based recommendations.

## 2. Scope

- Use only Government of India datasets.
- Analyze unemployment trends across states, sectors, gender, and education.
- Identify skill shortages based on NSDC and Skill India datasets.
- Produce visual dashboards and documented insights.
- Provide recommendations based on data-driven findings.

## 3. Functional Requirements

1. Extract datasets from NITI NDAP, PLFS, NSSO, and Labour Ministry portals.
2. Clean, process, and merge multiple datasets.
3. Compute unemployment rates, LFPR, WPR, skill gap indicators.
4. Generate state-wise, sector-wise, and demographic analyses.
5. Produce interactive or static visualizations.
6. Generate a final analytical report with insights.
7. Maintain a structured project repository.

## 4. Non-Functional Requirements

1. **Performance:** Efficient processing for large datasets.
2. **Reliability:** Use verified government data sources.
3. **Usability:** Well-documented, easy-to-reproduce workflow.
4. **Scalability:** Ability to integrate additional datasets.
5. **Security:** No personal or private data; only public data.
6. **Accuracy:** Verified statistical computations.
7. **Maintainability:** Modular code and proper folder structure.

## 5. Data Sources

- NITI Aayog NDAP
- Periodic Labour Force Survey (PLFS)
- AISHE Education Data

## 6. Workflow

1. Define Purpose & Objectives
2. Identify official datasets
3. Collect datasets from NDAP
4. Data cleaning & preprocessing
5. Exploratory Data Analysis
6. Skill gap identification
7. Visualization & reporting
8. Final documentation

## 7. Delivery Timeline

**\*\*Estimated Duration: 1-2 weeks\*\***

Day 1-2: Requirements, dataset identification

Day 3-5: Data collection & cleaning

Day 6-8: Analysis & visualizations

Day 9-10: Report writing & documentation

## 8. Full Flowchart





