A Project on

“AI Based Real Time Government Fund Monitoring, Expenditure”

Submitted to Savitribai Phule Pune University
for the partial fulfillment of Under Graduate Degree in
Computer Engineering

Presented By

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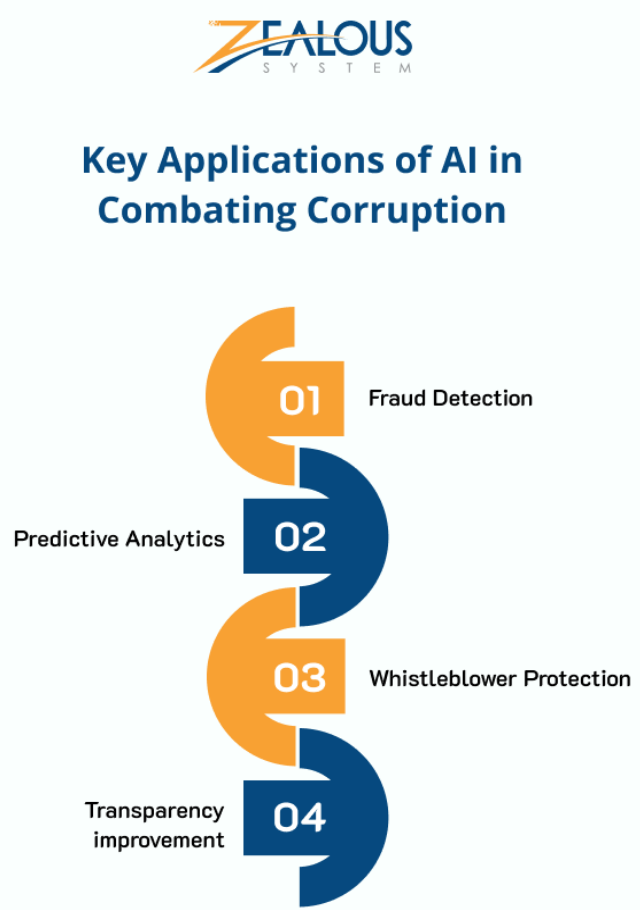
1. Introduction

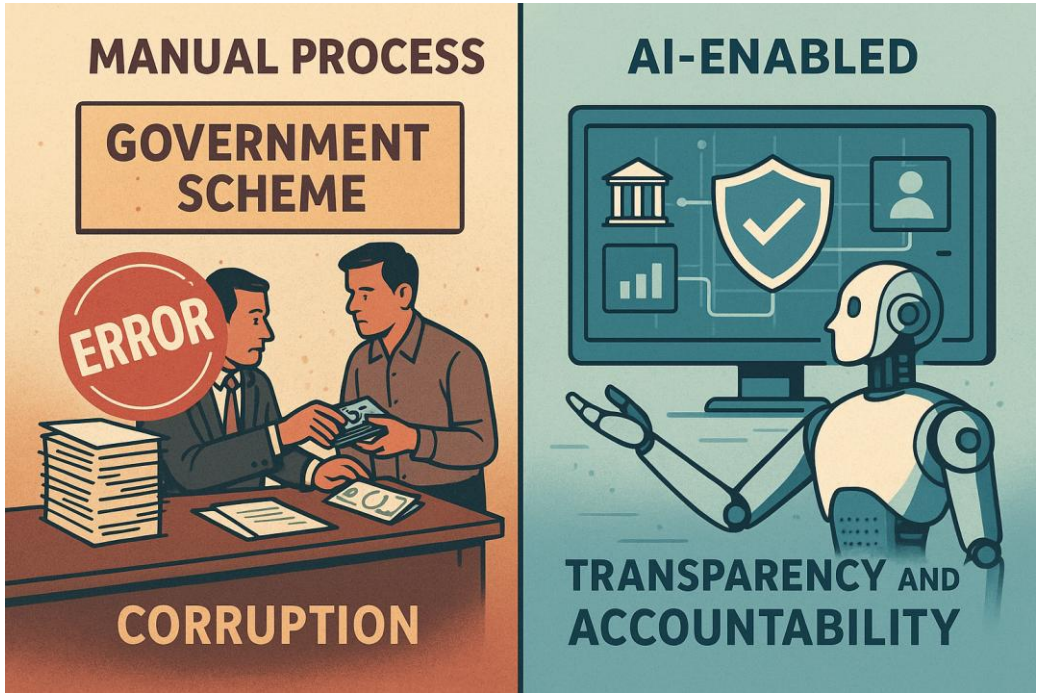
1. Government fund utilization lacks transparency and real-time oversight.
2. Manual auditing processes slow error-prone reactive in nature.
3. Public records are available but lack analytical intelligence insights.
4. It is a delay in detecting anomalies or irregularities in fund flow.
5. AI can enable real-time monitoring and smarter decision-making.
6. Predictive analysis can forecast fund requirements and risks.
7. An intelligent system is needed to improve accountability and fund allocation.



1. Introduction

1.1 **Motivation**

1. Lack of transparency in government fund allocation and utilization.
2. Delays in tracking and reporting fund expenditures.
3. Growing public concern over misuse and inefficient fund spending.
4. Manual auditing processes are slow and error-prone.
5. Current monitoring are reactive than proactive.
6. AI can enable real-time, intelligent monitoring and timely decision-making.



1. Introduction

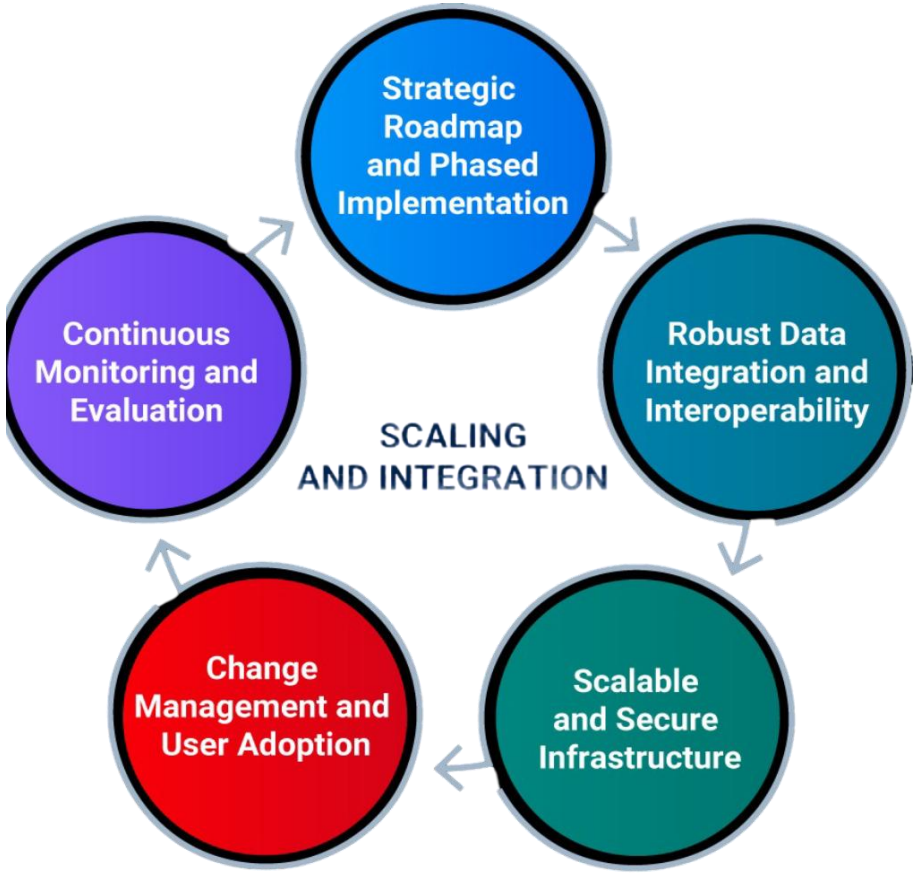
1.2 Objective

1. Build an AI-based system to monitor real-time government fund expenditure.
2. Detect anomalies and irregularities in fund usage using machine learning.
3. Forecast future fund requirements and misuse risks using predictive analytics.
4. Provide real-time alerts and insights to improve fund management.
5. Enhance transparency and accountability through intelligent reporting.

1. Introduction

1.3 Problem Statement

Despite the availability of public records, monitoring government fund utilization remains inefficient and often delayed. Existing systems lack real-time analytical capabilities to detect irregularities effectively. Manual auditing is slow, reactive, and prone to human error. This leads to poor visibility into fund flow and delayed identification of misuse. There is limited accountability and a lack of intelligent insights for decision-makers. Hence, a real-time AI-based monitoring system is essential to enhance transparency, efficiency, and trust in fund management.There is limited accountability and a lack of intelligent insights for decision-makers. Hence, a real-time AI-based monitoring system is essential to enhance transparency, efficiency, and trust in fund management.



2. Related Work / Literature Survey

1. "AI-Based Public Fund Monitoring System" – IEEE, 2023: Demonstrated a 60% improvement in fraud detection through the use of machine learning and anomaly detection models in government finance systems.

2. Limitations of Existing Systems: Current e-Governance portals and dashboards offer basic visualization and static reports but lack real-time anomaly detection, predictive insights.

3. NLP in Financial Monitoring: Recent studies show Natural Language Processing (NLP) has been applied to analyze unstructured financial documents, budgets, and policy reports, extracting meaningful trends and red flags from vast public records.

4. OCR & Document Verification: Optical Character Recognition (OCR) has been utilized to automatically scan and verify receipts, invoices, and fund usage logs, reducing manual validation time and increasing accuracy.

5. Deep Learning Models: Research integrates models like LSTM (Long Short-Term Memory) and Autoencoder-based Anomaly Detection Networks for temporal fraud tracking

3. Proposed Methodology / Prototype / Idea / Algorithm

1. Data Integration: Collects structured and unstructured data like budgets, invoices, receipts, and reports from various government sources.

2. OCR / Computer Vision: Scans and digitizes physical documents such as receipts and bills. Eliminates manual entry and enhances data accuracy.

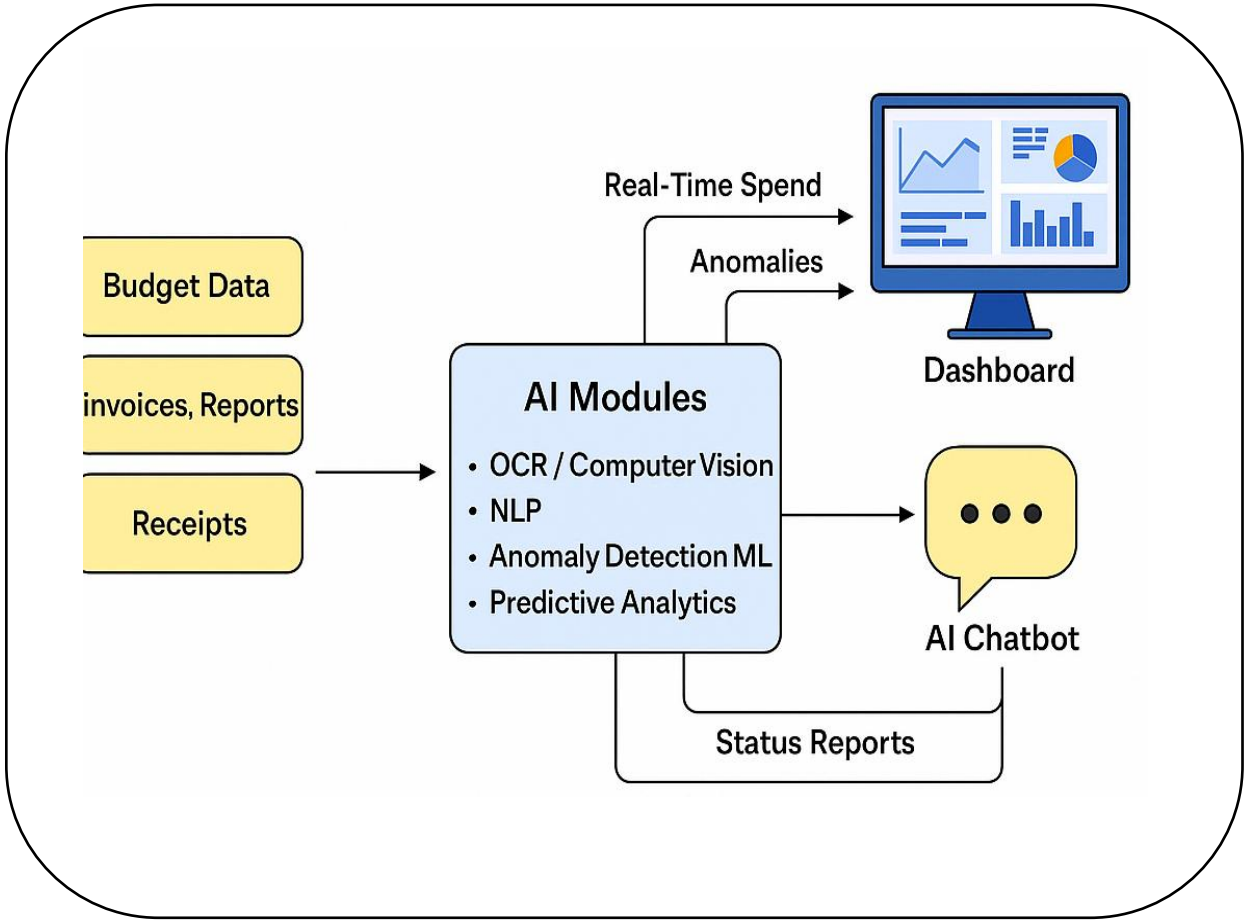
3. Natural Language Processing (NLP): Analyzes fund reports, policies, and audit documents for insights.

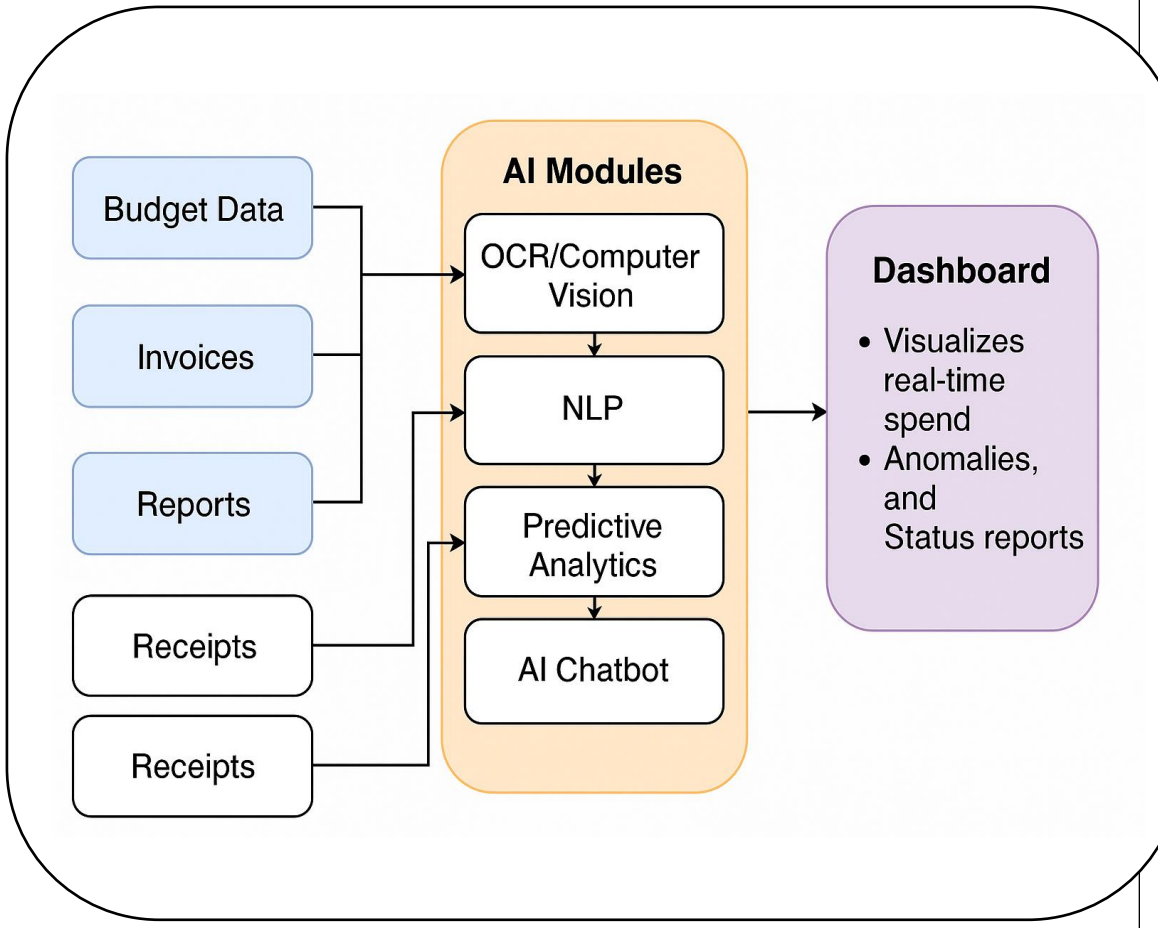
4. Anomaly Detection (ML Models): Identifies irregular or suspicious expenditures using machine learning

5. Predictive Analytics: Forecasts future fund requirements, delays, and risks using AI models.

6. AI Dashboard & Chatbot: Visualizes fund flow, status reports, and anomalies; chatbot answers citizen/official queries.

3. Proposed Methodology / Prototype / Idea / Algorithm





4. Conclusion

1. The proposed AI-based fund monitoring system brings a transformative shift in how government funds are tracked, analyzed, and managed. By integrating advanced technologies like machine learning, OCR, NLP, and predictive analytics, the system enables real-time monitoring of financial activities and detects anomalies with high accuracy.

2. It addresses the long-standing issues of delayed reporting, lack of transparency, and manual auditing errors, ensuring proactive governance and data-driven decision-making. With the use of intelligent dashboards and AI chatbots, both officials and citizens can access fund-related information seamlessly, enhancing public trust and administrative accountability.

3. Furthermore, the incorporation of forecasting capabilities helps in identifying future fund requirements and misuse risks, allowing better planning and optimized allocation of resources.

4. In conclusion, this project has the potential to revolutionize public financial governance, making it transparent, intelligent, and citizen-centric, thus supporting the vision of a truly digitally empowered government.

5. References

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Thank You !

Any Questions?