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BONAFIDE CERTIFICATE

The work embodied in the present project report entitled "**AI-Driven Financial Document Analysis: A Privacy-Preserving Multi-Agent Framework Using Local Large Language Models**" has been carried out by the students LOGESHWARAN P, RAKSHANA G, RIYAZ AHMED H, SURIYA ANAND R. The work reported herein is original and we declare that the project is their own work, except where specifically acknowledged, and has not been copied from other sources or been previously submitted for assessment.

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INTERNAL EXAMINER **EXTERNAL EXAMNIER**

ABSTRACT

The increasing volume and complexity of financial documents generated by businesses, institutions, and individuals have propelled the demand for automated, accurate, and efficient document analysis systems. Traditional manual data entry and rule-based Optical Character Recognition (OCR) methods are labour-intensive, error-prone, and insufficient to manage diverse document formats such as invoices, receipts, bank statements, and tax forms. Addressing these limitations, the Financial Document Analyzer utilizes a Python-based backend integrated with Ollama's advanced multimodal AI models, designed to extract, interpret, and structure financial data with high precision. The multimodal nature of the AI enables comprehensive understanding of both visual and textual elements, enhancing robustness against challenges like low-quality scans and irregular document layouts. This innovative solution drastically reduces manual workload, improves financial decision-making processes, and strengthens enterprise automation sectors. It establishes a foundational platform for future advancements in AI-driven financial document processing, reflecting the transformative impact of integrating multimodal AI in financial workflows.

Keywords: Intelligent Document Processing (IDP) - Multimodal AI - Financial Information Extraction - Anomaly Detection -Enterprise Automation.

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SIGNATURE

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LIST OF ABBREVIATIONS

ABBREVIATION		FULL FORM
AI	-	Artificial Intelligence
LLM	-	Large Language Model
Local LLM	-	Locally Deployed Large Language Model
NLP	-	Natural Language Processing
NER	-	Named Entity Recognition
OCR	-	Optical Character Recognition
RAG	-	Retrieval-Augmented Generation
CSV	-	Comma-Separated Values
ETL	-	Extract, Transform, Load
EDA	-	Exploratory Data Analysis
JSON	-	JavaScript Object Notation
PDF	-	Portable Document Format
UI	-	User Interface
UX	-	User Experience
FSR	-	Financial Summary Report
DB	-	Database
LLM Agent	-	Autonomous Reasoning Component Using LLM
ML	-	Machine Learning
DL	-	Deep Learning
KPI	-	Key Performance Indicator
GPI	-	Graphics Processing Unit
CPU	-	Central Processing Unit
API Key	-	Authentication Key for External Services
FE	-	Feature Extraction
MAS	-	Multi-Agent System