

AI Contract Review Assistant

Project Overview

Designed and developed an AI-powered Contract Review Assistant that accelerates the analysis of legal agreements by leveraging Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), and enterprise legal knowledge. The solution assists legal teams, procurement specialists, and business stakeholders by identifying contractual risks, summarizing complex legal language, highlighting deviations from standard templates, and recommending revisions based on organizational policies.

The application streamlines contract review across procurement, vendor management, sales, and compliance processes while maintaining human oversight for legal decisions. By automating repetitive analysis tasks, the platform improves review consistency, shortens contract turnaround times, and enables legal professionals to focus on high-value negotiations.

Architecture & Solution

The platform securely integrates with enterprise document repositories, contract lifecycle management (CLM) systems, and identity providers through REST APIs and role-based authentication. Contracts are processed using OCR where required, indexed into a vector database, and enriched through Retrieval-Augmented Generation to provide context-aware legal analysis grounded in approved company policies, regulatory guidance, and historical contract language.

The solution includes configurable prompt templates, clause classification, risk scoring, semantic search, audit logging, observability dashboards, and feedback mechanisms that continuously improve AI performance. A human-in-the-loop workflow ensures that legal counsel reviews recommendations before final approval, supporting enterprise governance and compliance.

Business Impact

The AI Contract Review Assistant significantly reduced manual contract review effort, accelerated procurement and vendor onboarding processes, improved consistency in legal assessments, and enhanced compliance with corporate standards. The reusable AI framework also enabled rapid expansion into additional legal and compliance use cases while reducing development effort for future AI initiatives.

Key Capabilities

- Intelligent contract summarization
- Clause extraction and classification
- Contract risk identification and scoring
- Policy and compliance validation
- Retrieval-Augmented Generation (RAG)
- Semantic search across legal documents
- Human-in-the-loop review workflow
- AI observability, governance, and audit logging

Technologies

Python, Azure OpenAI/OpenAI APIs, LangChain, Azure AI Document Intelligence (OCR), Vector Database, REST APIs, OAuth 2.0, Prompt Engineering, Docker, Kubernetes, Enterprise Document Management Integration.