AI System Functional Requirements Overview

1. Introduction

This document provides a sample overview of the functional requirements for an AI system. The intent is to outline key capabilities, data flows, and integration points to guide solution development.

2. System Objectives

- Automate analysis and processing of input data.
- Generate relevant and accurate predictions, recommendations, or classifications.
- Provide a user interface for interaction with AI-generated outputs.
- Enable monitoring, logging, and performance reporting of AI functionalities.

3. Functional Requirements

ID	Requirement
FR-1	Accept and validate data inputs from users or external sources.
FR-2	Pre-process input data for compatibility with AI models.
FR-3	Run inference using trained AI models against input data.
FR-4	Present AI-generated results to users in a clear, actionable format.
FR-5	Allow user feedback on AI outputs for continuous system improvement.
FR-6	Log all input, output, and feedback events for auditing and analytics.
FR-7	Support integration through RESTful API endpoints.

4. Non-Functional Requirements (Summary)

- System must respond to queries within 2 seconds on average.
- Availability of at least 99% uptime.
- Data privacy must be ensured per compliance standards.
- Modular design to allow model upgrades with minimal downtime.

5. Sample Data Flow

1. User submits input data via web interface or API.
2. System validates and preprocesses the data.
3. AI model generates predictions/results.
4. System displays output and optionally collects user feedback.
5. Logs are updated with all relevant events.

6. Integration Points

- Web application frontend
- REST API for external system integration
- Monitoring and analytics dashboard
- User feedback module

7. Glossary

- **Inference:** The process of making predictions using a trained AI model.
- **Pre-process:** Data preparation steps before AI usage.
- **REST API:** Standards-based interface for system integration.