Project Design Phase-I

Proposed Solution Template

Project Name	AI-enhanced intrusion detection system

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Traditional Intrusion Detection Systems (IDS) struggle with identifying new or evolving threats, generate high false positives, and lack real-time responsiveness. There is a need for an intelligent system that adapts to unknown attacks while maintaining accuracy and speed.
2.	Idea / Solution description	Develop an AI-powered IDS that leverages machine learning algorithms (e.g., deep learning, anomaly detection) to detect both known and unknown threats in real-time. The system will include adaptive learning, a centralized monitoring dashboard, and integration with existing security infrastructure.
3.	Novelty / Uniqueness	The system uses a combination of unsupervised learning (to detect unknown anomalies) and supervised learning (for known attacks), with real-time feedback loops to constantly update models. It also includes an automated false-positive reduction layer and edge-device compatibility for decentralized security.
4.	Social Impact / Customer Satisfaction	Enhanced protection against cyber threats for organizations, government networks, and personal users. Reduces downtime and data breaches,

		thereby increasing trust and satisfaction. Contributes to national and digital security.
5.	Business Model (Revenue Model)	- **Subscription model** for businesses based on size and number of nodes protected. - **Freemium version** with limited features for startups or personal use. - **Consulting and customization** for enterprise clients.
6.	Scalability of the Solution	The solution is cloud-compatible and can scale from small office networks to large enterprise environments. With edge-AI capability, it can also be deployed in IoT environments or smart cities, making it flexible for future security needs.