Project Design Phase-I

Proposed Solution Template

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Traditional cybersecurity intrusion detection systems (IDS) struggle to effectively detect sophisticated and evolving network attacks. Many existing solutions rely on static rule-based approaches, which are insufficient in handling complex patterns and zero-day threats in real time.
2.	Idea / Solution description	We propose an AI-driven intrusion detection system that leverages deep learning techniques like LSTM, Autoencoders, and Graph Neural Networks (GNNs) to identify and analyze network threats in real-time. This model can be integrated with popular IDS platforms (e.g., Snort) to enhance detection capabilities by learning from both known and unknown patterns of malicious behavior.
3.	Novelty / Uniqueness	□ Combines multiple deep learning methods

		(LSTM for sequences, GNN for lateral movement, and Autoencoders for anomaly detection) in a hybrid model. □ Uses real-time packet analysis rather than static log reviews.
4.	Social Impact / Customer Satisfaction	□ Provides enhanced security for organizations, reducing the risk of data breaches and cyber threats. □ Real-time detection minimizes potential damage and supports quicker incident response.
5.	Business Model (Revenue Model)	**Enterprise Licensing:** One-time or annual licensing for large organizations. **Consulting & Customization:** Offer tailored integration and support packages
6.	Scalability of the Solution	□ Cloud-native and modular architecture allows scaling across organizations of any size. □ Works across different network topologies and can be updated continuously with new training data.