

# AI-Driven Defensive Ecosystem (2020–2025)

## 1. Threat Detection & Analysis

Hybrid DL  
(CNN+LSTM)

Graph Neural Nets  
(Malware)

Explainable AI  
(XAI Audit)

## 2. Response & Orchestration

RL Agents  
(Autonomous)

Self-Healing  
Systems (CPS)

## 3. Predictive Intelligence

Dark Web  
Mining  
(NLP)

Bayesian Attack  
Graphs

## 4. GenAI & Security Assistants

SecLM (LLMs)  
SOC Copilots

Prompt  
Engineering

Decentralized  
(Blockchain)