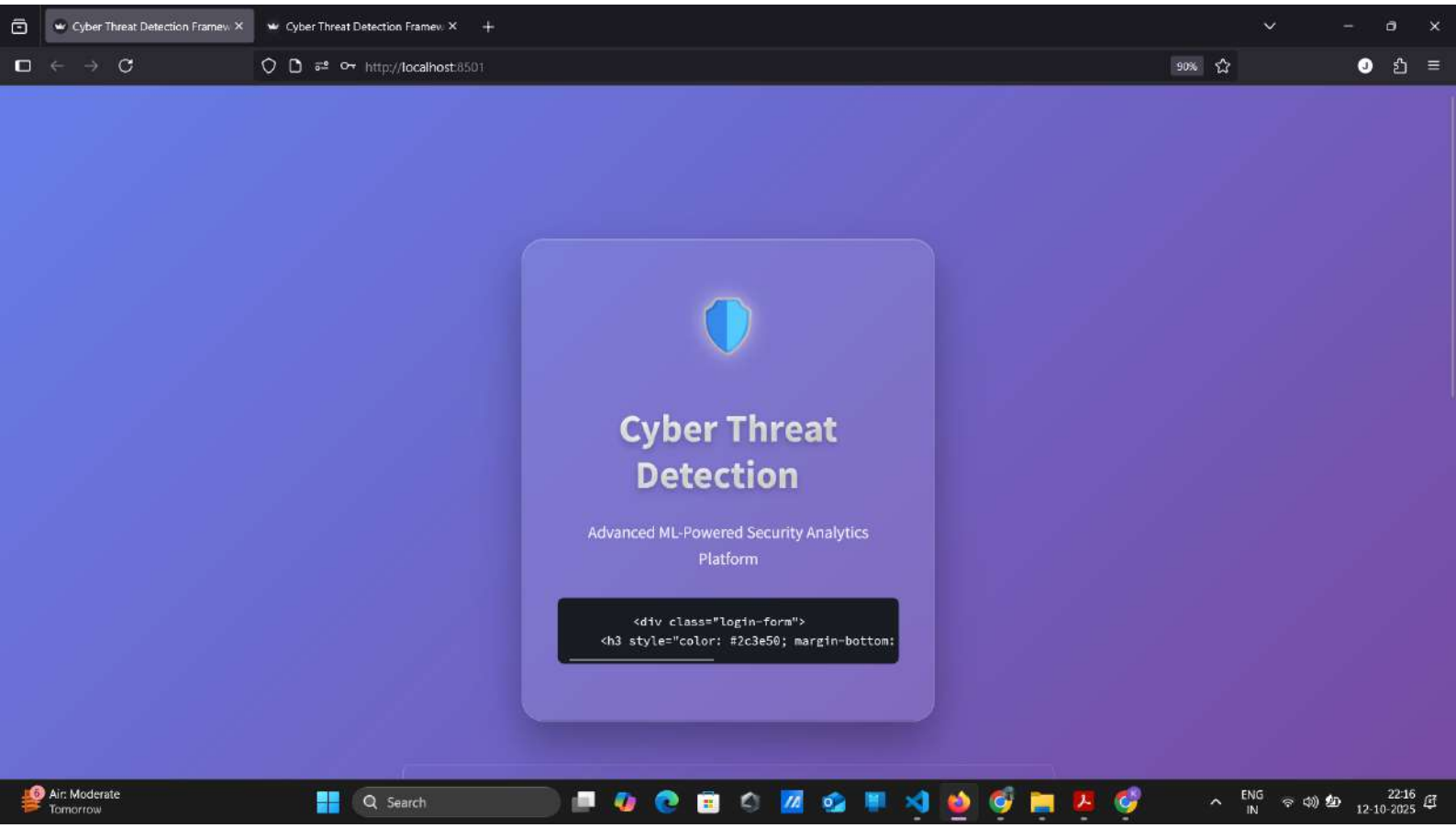
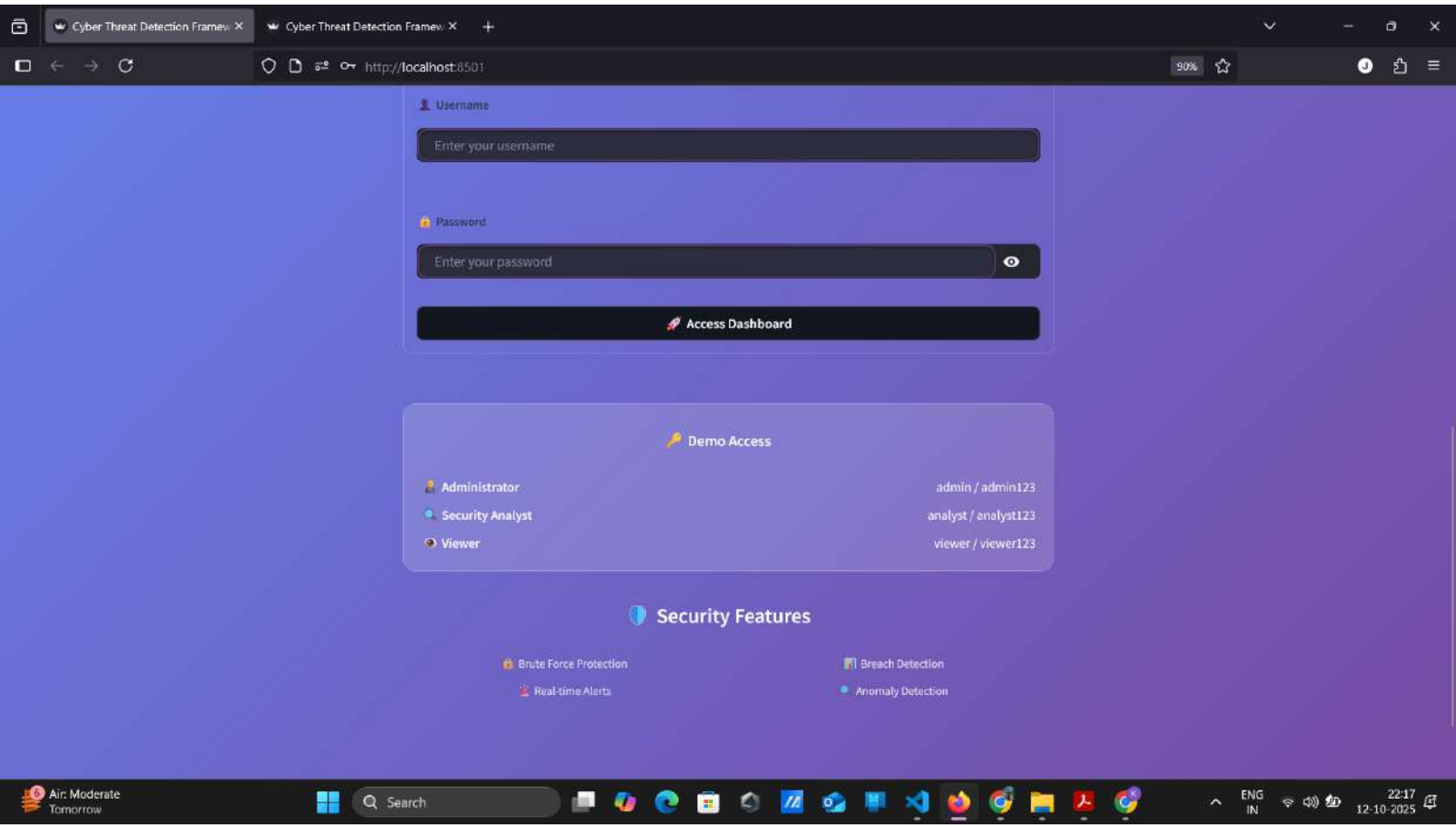
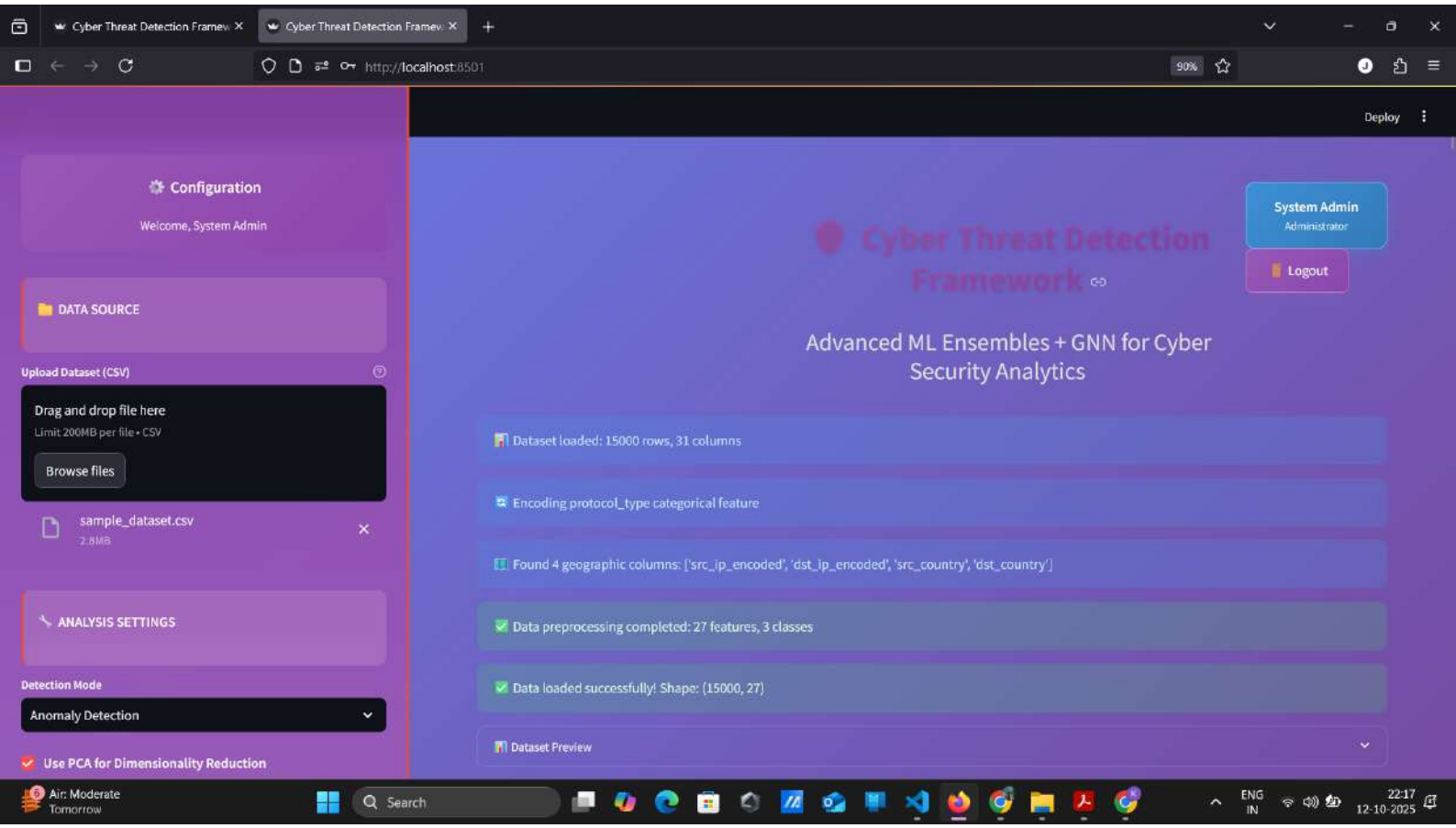

Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Cyber Threat Detection
Advanced ML-Powered Security Analytics Platform

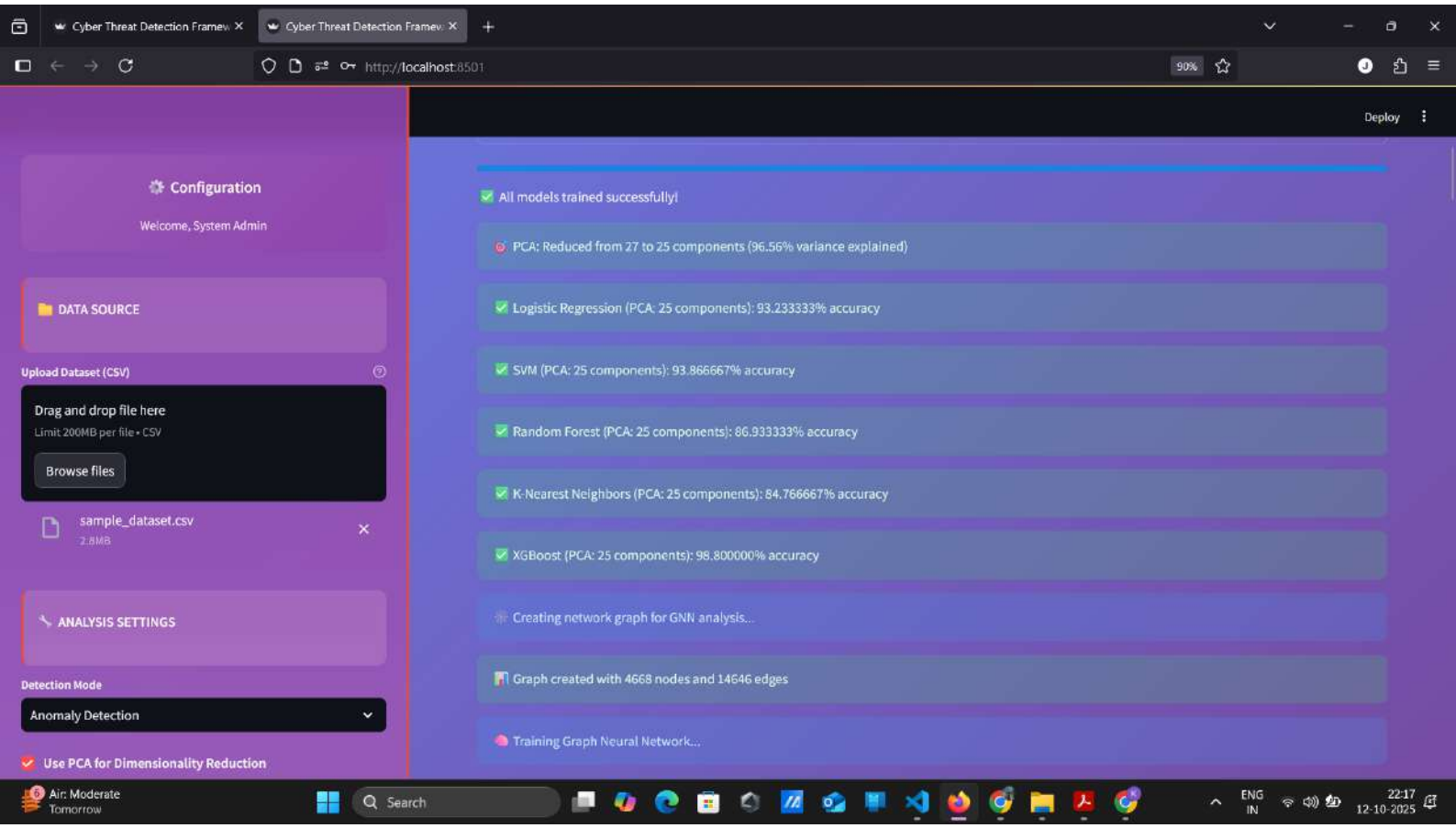
<h3 style="color: #2c3e50; margin-bottom:

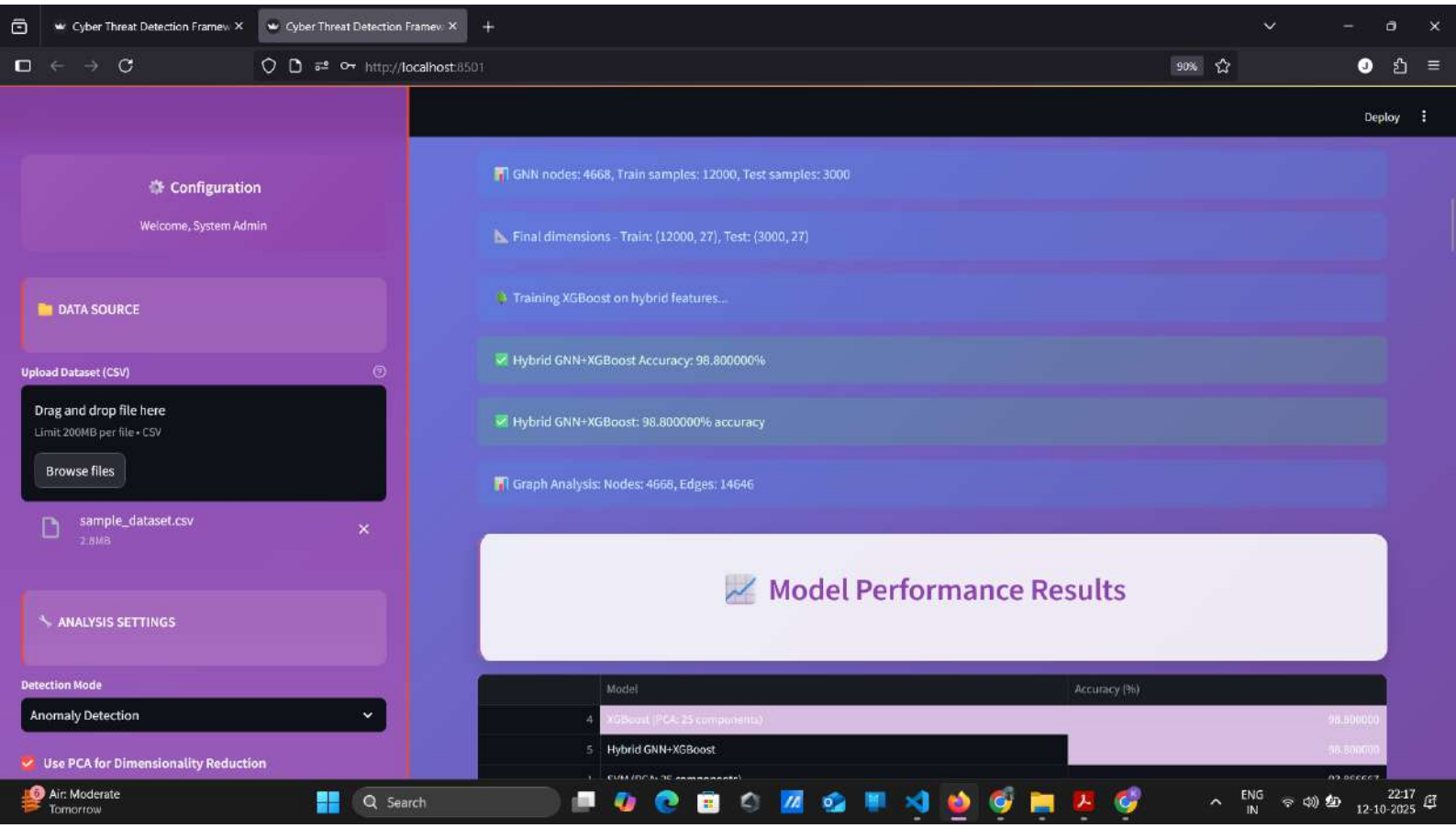
Air: Moderate
Tomorrow
Search
ENG
IN
22:16
12-10-2025


Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Username
Enter your username
Password
Enter your password
Access Dashboard
Demo Access
Administrator
admin / admin123
Security Analyst
analyst / analyst123
Viewer
viewer / viewer123
Security Features
Brute Force Protection
Breach Detection
Real-time Alerts
Anomaly Detection

Air: Moderate
Tomorrow
Search
ENG
IN
22:17
12-10-2025


Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Deploy
Configuration
Welcome, System Admin
DATA SOURCE
Upload Dataset (CSV)
Drag and drop file here
Limit 200MB per file • CSV
Browse files
sample_dataset.csv
2.8MB
ANALYSIS SETTINGS
Detection Mode
Anomaly Detection
Use PCA for Dimensionality Reduction
System Admin
Administrator
Logout
Cyber Threat Detection Framework
Advanced ML Ensembles + GNN for Cyber Security Analytics
Dataset loaded: 15000 rows, 31 columns
Encoding protocol_type categorical feature
Found 4 geographic columns: ['src_ip_encoded', 'dst_ip_encoded', 'src_country', 'dst_country']
Data preprocessing completed: 27 features, 3 classes
Data loaded successfully! Shape: (15000, 27)
Dataset Preview
Air: Moderate
Tomorrow
Search
ENG
IN
22:17
12-10-2025


Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Deploy
Configuration
Welcome, System Admin
DATA SOURCE
Upload Dataset (CSV)
Drag and drop file here
Limit 200MB per file • CSV
Browse files
sample_dataset.csv
2.8MB
ANALYSIS SETTINGS
Detection Mode
Anomaly Detection
Use PCA for Dimensionality Reduction
All models trained successfully!
PCA: Reduced from 27 to 25 components (96.56% variance explained)
Logistic Regression (PCA: 25 components): 93.233333% accuracy
SVM (PCA: 25 components): 93.866667% accuracy
Random Forest (PCA: 25 components): 86.933333% accuracy
K-Nearest Neighbors (PCA: 25 components): 84.766667% accuracy
XGBoost (PCA: 25 components): 98.800000% accuracy
Creating network graph for GNN analysis...
Graph created with 4668 nodes and 14646 edges
Training Graph Neural Network...
Air: Moderate
Tomorrow
Search
ENG
IN
22:17
12-10-2025


Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Deploy
Configuration
Welcome, System Admin
DATA SOURCE
Upload Dataset (CSV)
Drag and drop file here
Limit 200MB per file • CSV
Browse files
sample_dataset.csv
2.8MB
ANALYSIS SETTINGS
Detection Mode
Anomaly Detection
Use PCA for Dimensionality Reduction
GNN nodes: 4668, Train samples: 12000, Test samples: 3000
Final dimensions - Train: (12000, 27), Test: (3000, 27)
Training XGBoost on hybrid features...
Hybrid GNN+XGBoost Accuracy: 98.800000%
Hybrid GNN+XGBoost: 98.800000% accuracy
Graph Analysis: Nodes: 4668, Edges: 14646
Model Performance Results
Model
Accuracy (%)
4
XGBoost (PCA: 25 components)
98.800000
5
Hybrid GNN+XGBoost
98.800000
Air: Moderate
Tomorrow
Search
ENG
IN
22:17
12-10-2025

Cyber Threat Detection Framew × Cyber Threat Detection Framew × +

http://localhost:8501 90%

Deploy

Configuration

Welcome, System Admin

DATA SOURCE

Upload Dataset (CSV)

Drag and drop file here

Limit 200MB per file • CSV

Browse files

sample_dataset.csv

2.8MB

ANALYSIS SETTINGS

Detection Mode

Anomaly Detection

Use PCA for Dimensionality Reduction

Model Performance Results

	Model	Accuracy (%)
4	XGBoost (PCA: 25 components)	98.800000
5	Hybrid GNN+XGBoost	98.800000
1	SVM (PCA: 25 components)	93.866667
0	Logistic Regression (PCA: 25 components)	93.233333
2	Random Forest (PCA: 25 components)	86.933333
3	K-Nearest Neighbors (PCA: 25 components)	84.766667

Air: Moderate Tomorrow Search ENG IN 22:17 12-10-2025

Cyber Threat Detection Framew × Cyber Threat Detection Framew × +

http://localhost:8501 90%

Deploy

Configuration

Welcome, System Admin

DATA SOURCE

Upload Dataset (CSV)

Drag and drop file here

Limit 200MB per file • CSV

Browse files

sample_dataset.csv

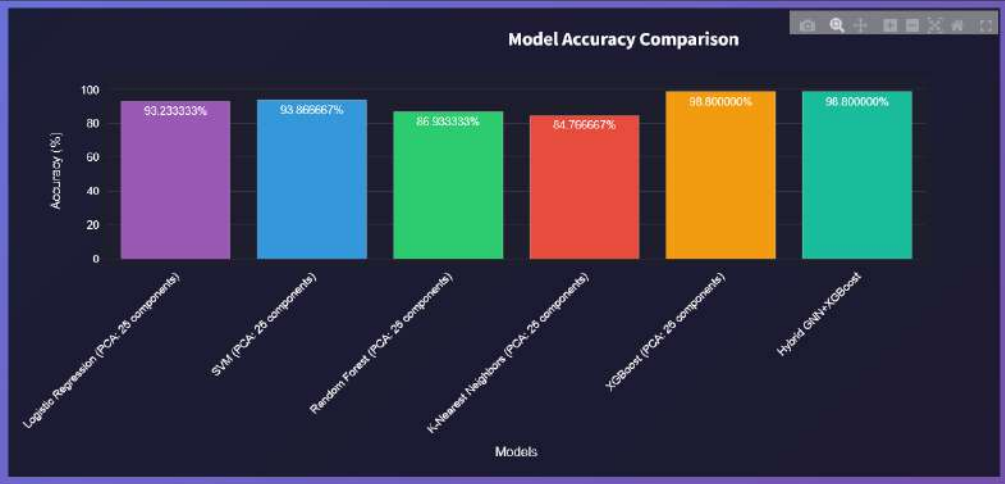
2.8MB

ANALYSIS SETTINGS

Detection Mode

Anomaly Detection

Use PCA for Dimensionality Reduction

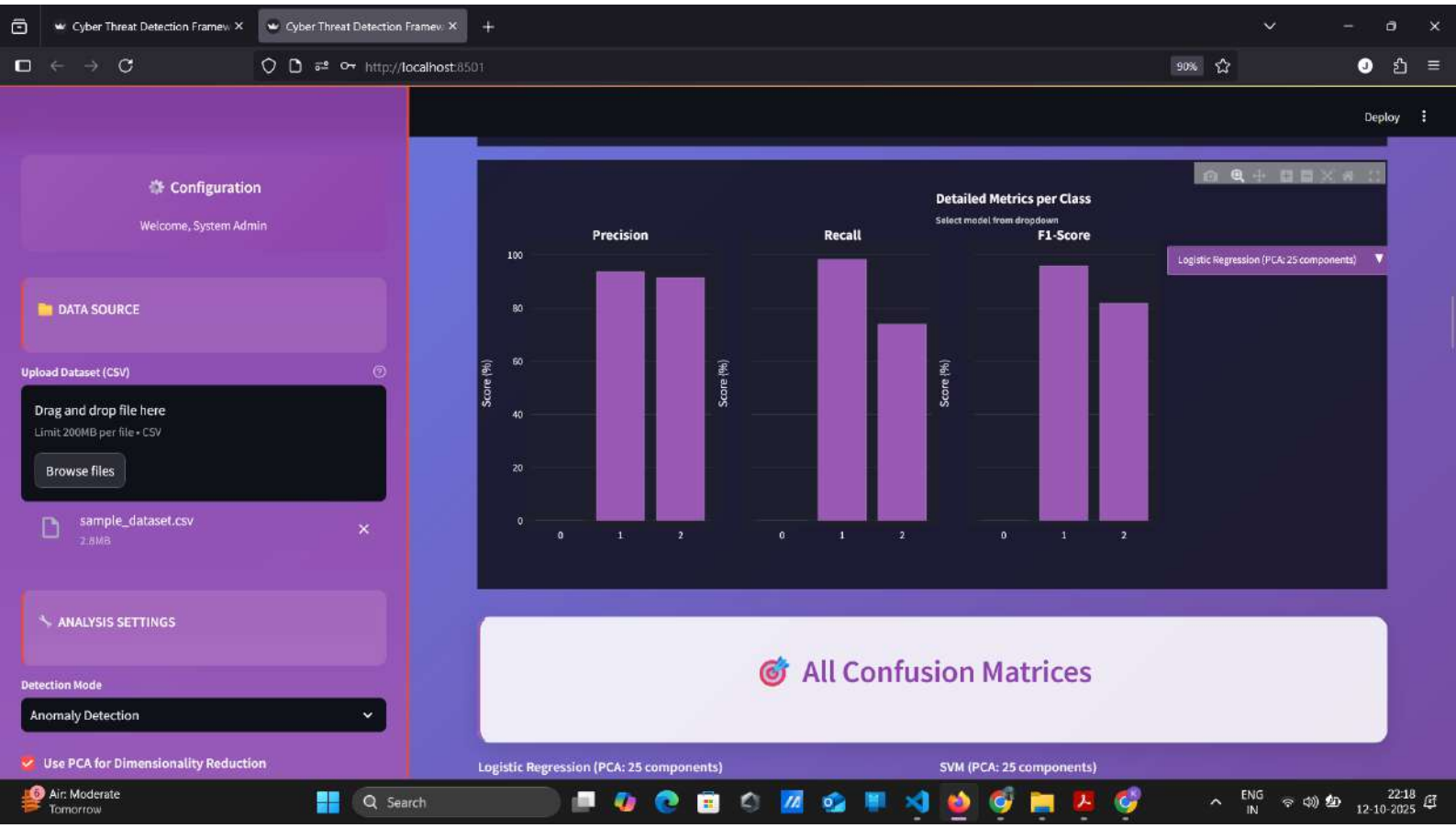


Air: Moderate
Tomorrow

Search

ENG
IN

22:18
12-10-2025


Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Deploy
Configuration
Welcome, System Admin
DATA SOURCE
Upload Dataset (CSV)
Drag and drop file here
Limit 200MB per file • CSV
Browse files
sample_dataset.csv
2.8MB
ANALYSIS SETTINGS
Detection Mode
Anomaly Detection
Use PCA for Dimensionality Reduction
Detailed Metrics per Class
Select model from dropdown
Logistic Regression (PCA: 25 components)
Precision
Recall
F1-Score
Score (%)
All Confusion Matrices
Logistic Regression (PCA: 25 components)
SVM (PCA: 25 components)
Air: Moderate
Tomorrow
Search
ENG
IN
22:18
12-10-2025

Cyber Threat Detection Framew × Cyber Threat Detection Framew × +

http://localhost:8501 90%

Deploy

Configuration

Welcome, System Admin

DATA SOURCE

Upload Dataset (CSV)

Drag and drop file here

Limit 200MB per file • CSV

Browse files

sample_dataset.csv

2.8MB

ANALYSIS SETTINGS

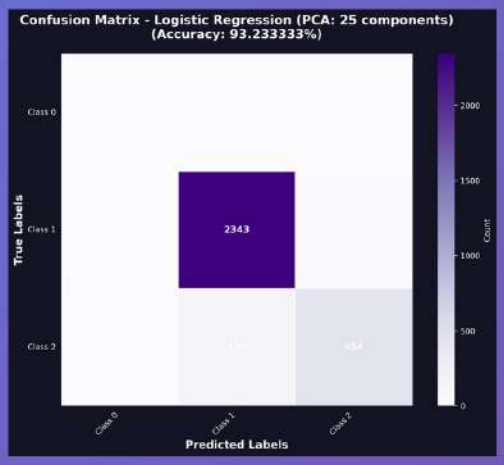
Detection Mode

Anomaly Detection

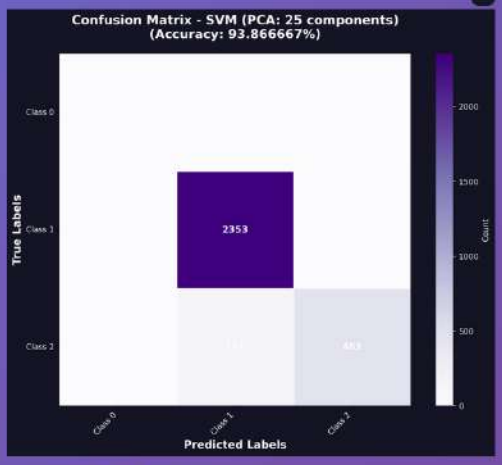
Use PCA for Dimensionality Reduction

All Confusion Matrices

Logistic Regression (PCA: 25 components)



SVM (PCA: 25 components)



Random Forest (PCA: 25 components)

K-Nearest Neighbors (PCA: 25 components)

Air: Moderate
Tomorrow

Search

ENG
IN

22:18
12-10-2025

Cyber Threat Detection Framew × Cyber Threat Detection Framew × +

http://localhost:8501 90%

Deploy

Configuration

Welcome, System Admin

DATA SOURCE

Upload Dataset (CSV)

Drag and drop file here

Limit 200MB per file • CSV

Browse files

sample_dataset.csv

2.8MB

ANALYSIS SETTINGS

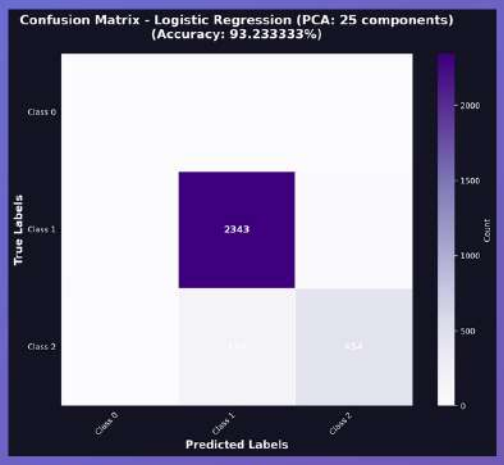
Detection Mode

Anomaly Detection

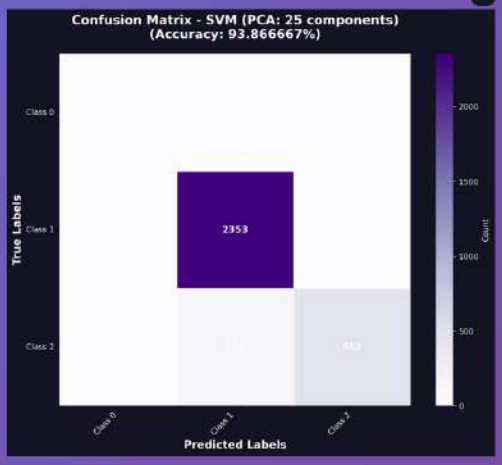
Use PCA for Dimensionality Reduction

All Confusion Matrices

Logistic Regression (PCA: 25 components)



SVM (PCA: 25 components)



Random Forest (PCA: 25 components)

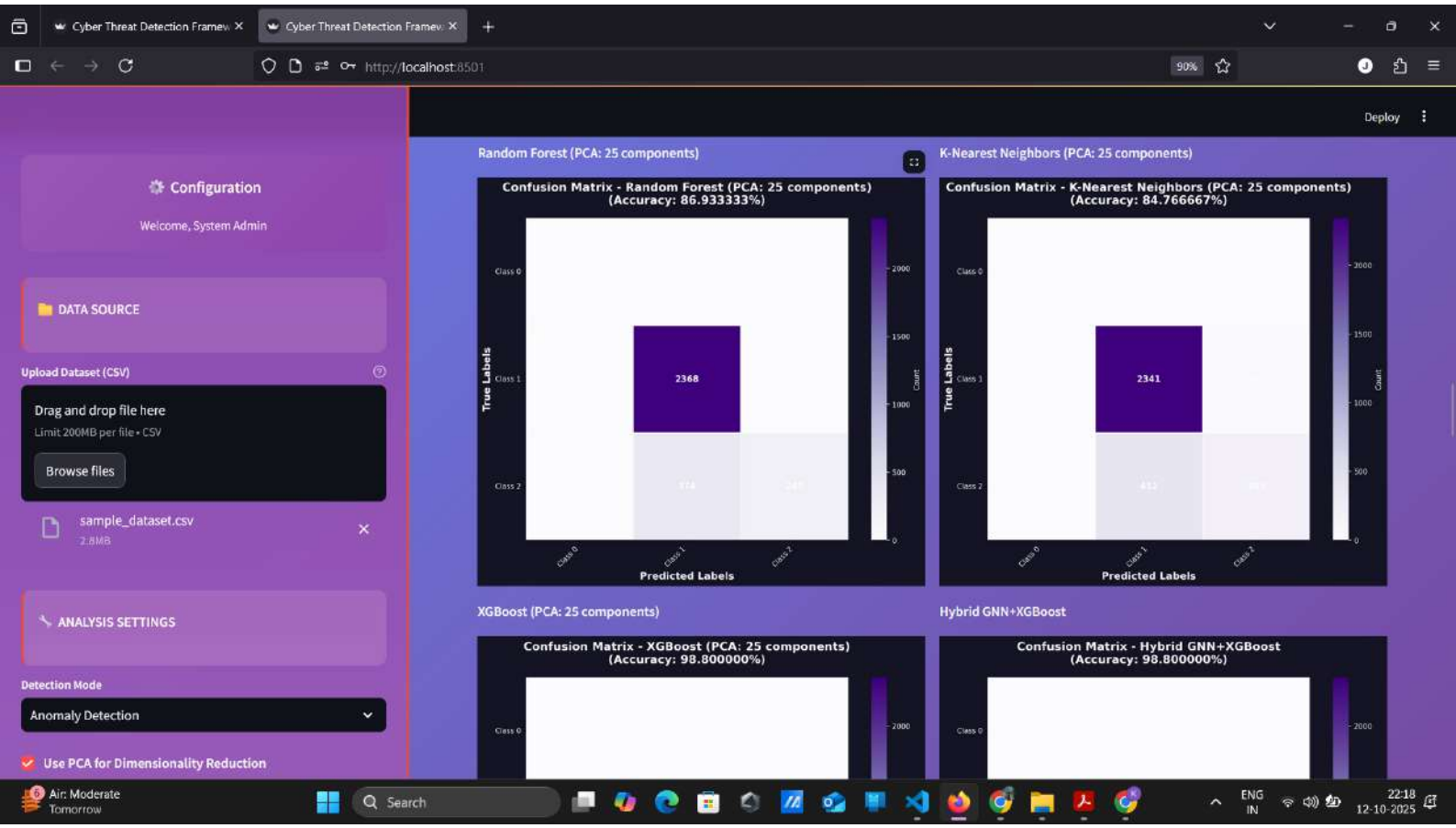
K-Nearest Neighbors (PCA: 25 components)

Air: Moderate
Tomorrow

Search

ENG
IN

22:18
12-10-2025


Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Deploy
Configuration
Welcome, System Admin
DATA SOURCE
Upload Dataset (CSV)
Drag and drop file here
Limit 200MB per file • CSV
Browse files
sample_dataset.csv
2.8MB
ANALYSIS SETTINGS
Detection Mode
Anomaly Detection
Use PCA for Dimensionality Reduction
Random Forest (PCA: 25 components)
Confusion Matrix - Random Forest (PCA: 25 components)
(Accuracy: 86.933333%)
True Labels
Predicted Labels
Class 0
Class 1
Class 2
2368
K-Nearest Neighbors (PCA: 25 components)
Confusion Matrix - K-Nearest Neighbors (PCA: 25 components)
(Accuracy: 84.766667%)
2341
XGBoost (PCA: 25 components)
Confusion Matrix - XGBoost (PCA: 25 components)
(Accuracy: 98.800000%)
Hybrid GNN+XGBoost
Confusion Matrix - Hybrid GNN+XGBoost
(Accuracy: 98.800000%)
Air: Moderate
Tomorrow
Search
ENG
IN
22:18
12-10-2025

Cyber Threat Detection Framew × Cyber Threat Detection Framew × +

http://localhost:8501 90%

Deploy

Configuration

Welcome, System Admin

DATA SOURCE

Upload Dataset (CSV)

Drag and drop file here

Limit 200MB per file • CSV

Browse files

sample_dataset.csv

2.8MB

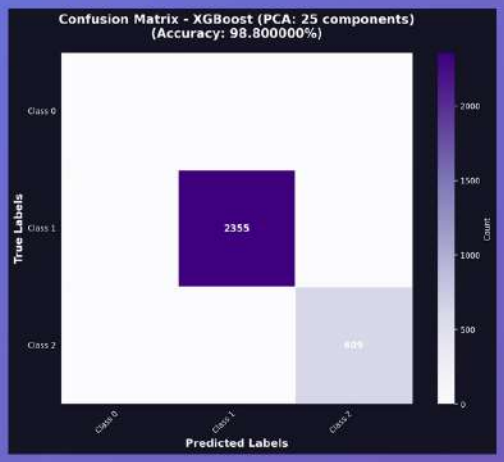
ANALYSIS SETTINGS

Detection Mode

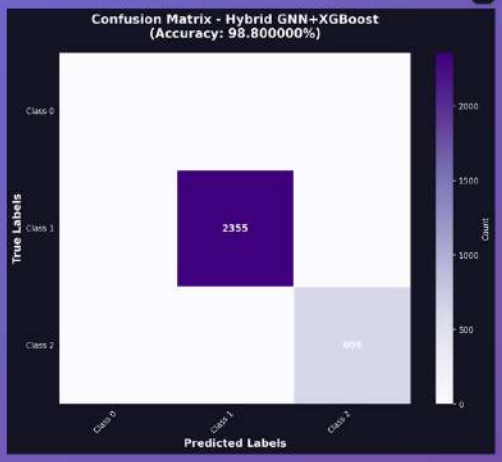
Anomaly Detection

Use PCA for Dimensionality Reduction

XGBoost (PCA: 25 components)



Hybrid GNN+XGBoost



Feature Importance Analysis

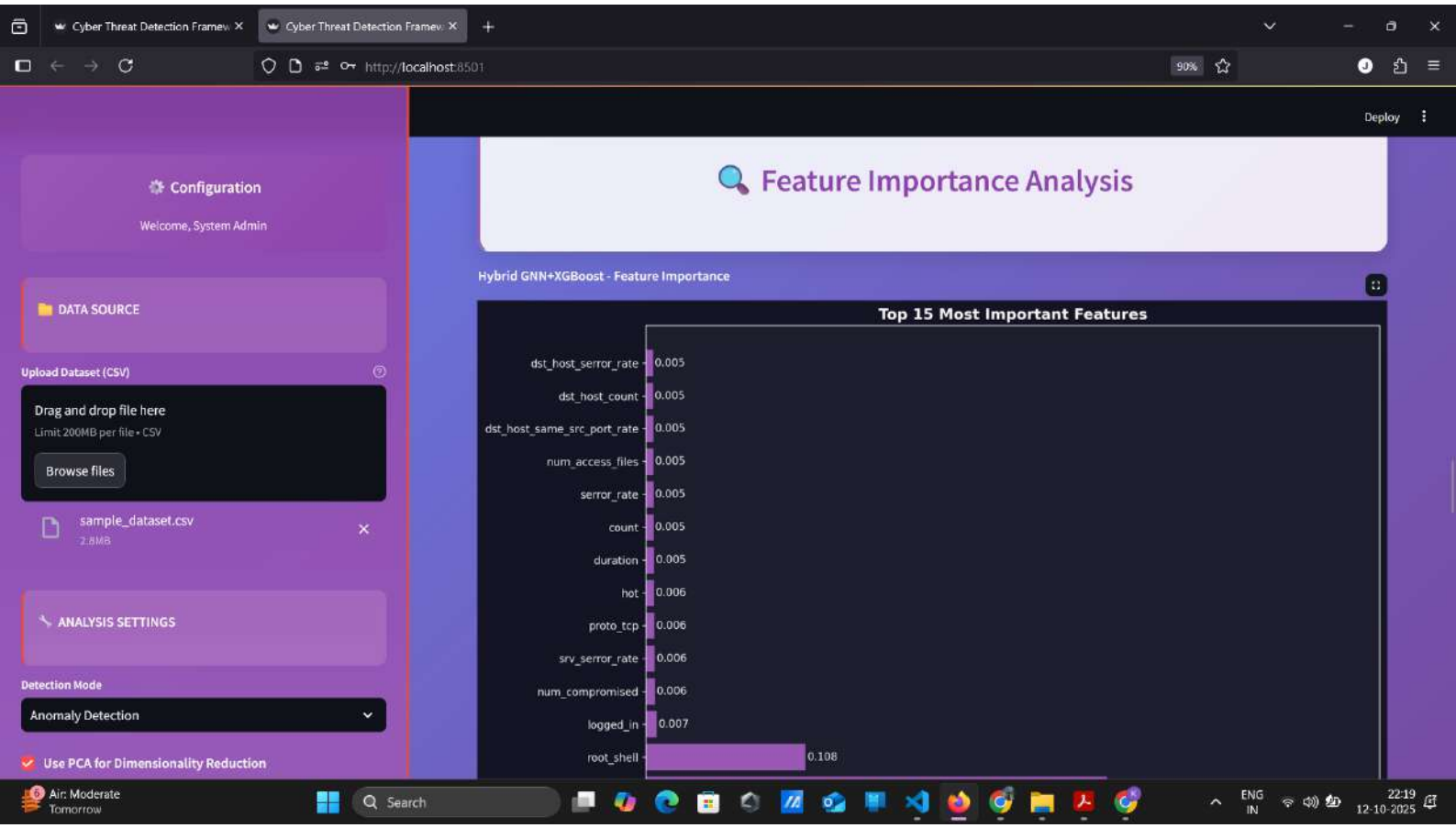
Hybrid GNN+XGBoost - Feature Importance

Air: Moderate
Tomorrow

Search

ENG
IN

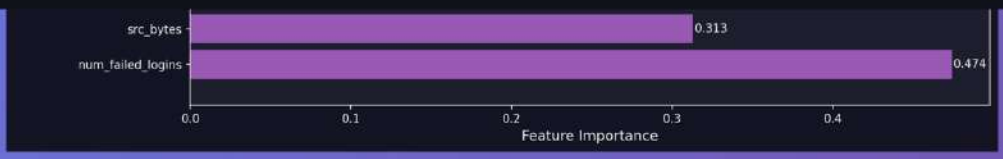
22:18
12-10-2025


Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Deploy
Configuration
Welcome, System Admin
DATA SOURCE
Upload Dataset (CSV)
Drag and drop file here
Limit 200MB per file • CSV
Browse files
sample_dataset.csv
2.8MB
ANALYSIS SETTINGS
Detection Mode
Anomaly Detection
Use PCA for Dimensionality Reduction
Feature Importance Analysis
Hybrid GNN+XGBoost - Feature Importance
Top 15 Most Important Features
dst_host_serror_rate 0.005
dst_host_count 0.005
dst_host_same_src_port_rate 0.005
num_access_files 0.005
serror_rate 0.005
count 0.005
duration 0.005
hot 0.006
proto_tcp 0.006
srv_serror_rate 0.006
num_compromised 0.006
logged_in 0.007
root_shell 0.108
Air: Moderate
Tomorrow
Search
ENG
IN
22:19
12-10-2025

Cyber Threat Detection Framew × Cyber Threat Detection Framew × +

http://localhost:8501 90%

Deploy



Configuration

Welcome, System Admin

DATA SOURCE

Upload Dataset (CSV)

Drag and drop file here

Limit 200MB per file • CSV

Browse files

sample_dataset.csv

2.8MB

ANALYSIS SETTINGS

Detection Mode

Anomaly Detection

Use PCA for Dimensionality Reduction

Advanced Geographical Threat Analysis

World Map Threat Distribution

Air: Moderate
Tomorrow

Search

ENG
IN

22:19
12-10-2025

Cyber Threat Detection Framew × Cyber Threat Detection Framew × +

http://localhost:8501 90%

Deploy

Configuration

Welcome, System Admin

DATA SOURCE

Upload Dataset (CSV)

Drag and drop file here

Limit 200MB per file • CSV

Browse files

sample_dataset.csv

2.8MB

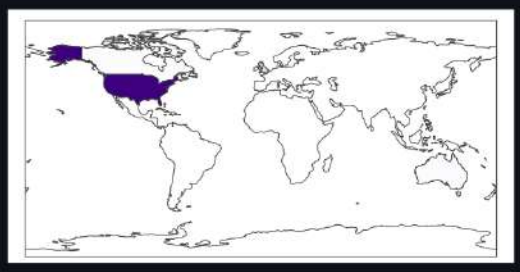
ANALYSIS SETTINGS

Detection Mode

Anomaly Detection

Use PCA for Dimensionality Reduction

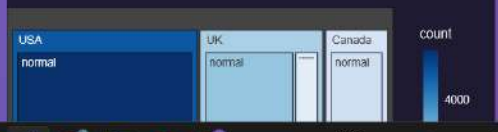
Threat Targets by Destination Country



Detailed Country-Threat Analysis

Distribution of Threat Types by Source Country

Distribution of Threat Types by Destination Country



Air: Moderate
Tomorrow

Search

ENG
IN

22:19
12-10-2025

Cyber Threat Detection Framew × Cyber Threat Detection Framew × +

http://localhost:8501 90%

Deploy

Configuration

Welcome, System Admin

DATA SOURCE

Upload Dataset (CSV)

Drag and drop file here

Limit 200MB per file • CSV

Browse files

sample_dataset.csv

2.8MB

ANALYSIS SETTINGS

Detection Mode

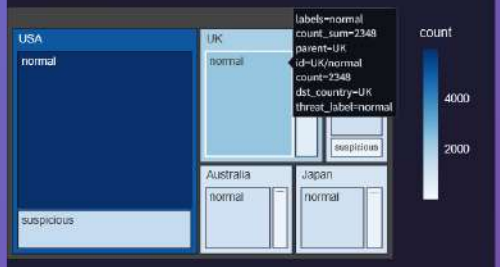
Anomaly Detection

Use PCA for Dimensionality Reduction

Detailed Country-Threat Analysis

Distribution of Threat Types by Source Country

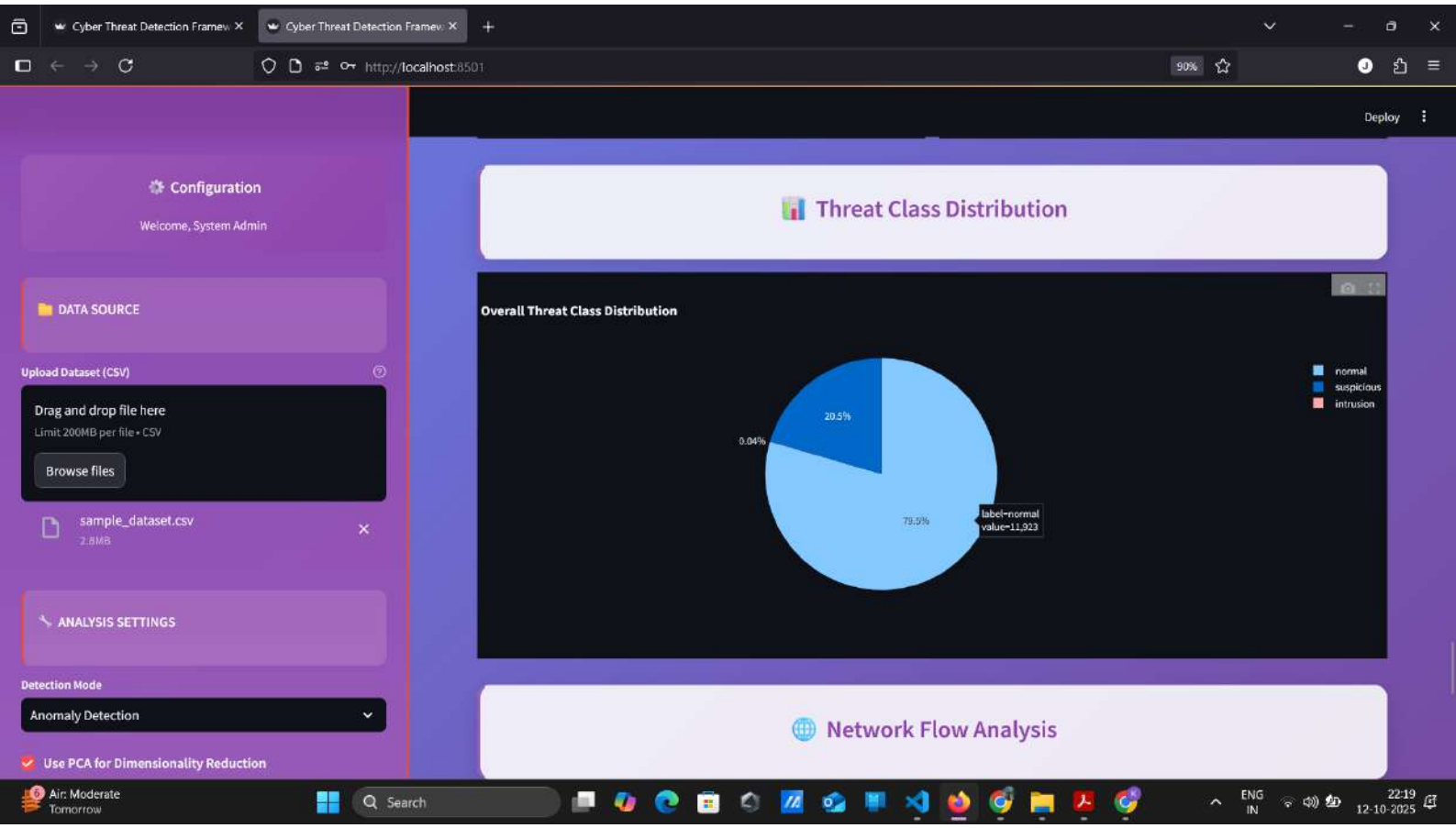
Distribution of Threat Types by Destination Country



Threat Class Distribution

Overall Threat Class Distribution

Air: Moderate Tomorrow Search ENG IN 22:19 12-10-2025


Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Deploy
Configuration
Welcome, System Admin
DATA SOURCE
Upload Dataset (CSV)
Drag and drop file here
Limit 200MB per file • CSV
Browse files
sample_dataset.csv
2.8MB
ANALYSIS SETTINGS
Detection Mode
Anomaly Detection
Use PCA for Dimensionality Reduction
Threat Class Distribution
Overall Threat Class Distribution
20.5%
0.04%
79.5%
label=normal
value=11,923
normal
suspicious
intrusion
Network Flow Analysis
Air: Moderate
Tomorrow
Search
ENG
IN
22:19
12-10-2025

Cyber Threat Detection Framew × Cyber Threat Detection Framew × +

http://localhost:8501 90%

Deploy

Configuration

Welcome, System Admin

DATA SOURCE

Upload Dataset (CSV)

Drag and drop file here

Limit 200MB per file • CSV

Browse files

sample_dataset.csv

2.8MB

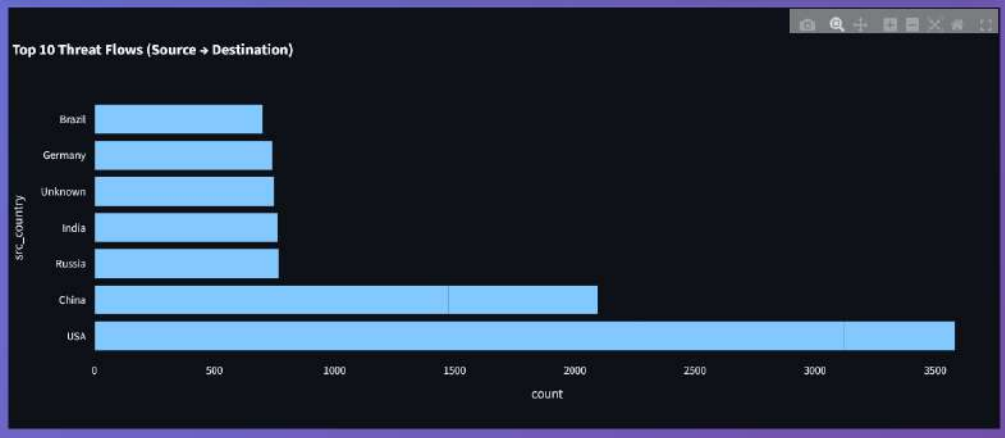
ANALYSIS SETTINGS

Detection Mode

Anomaly Detection

Use PCA for Dimensionality Reduction

Network Flow Analysis



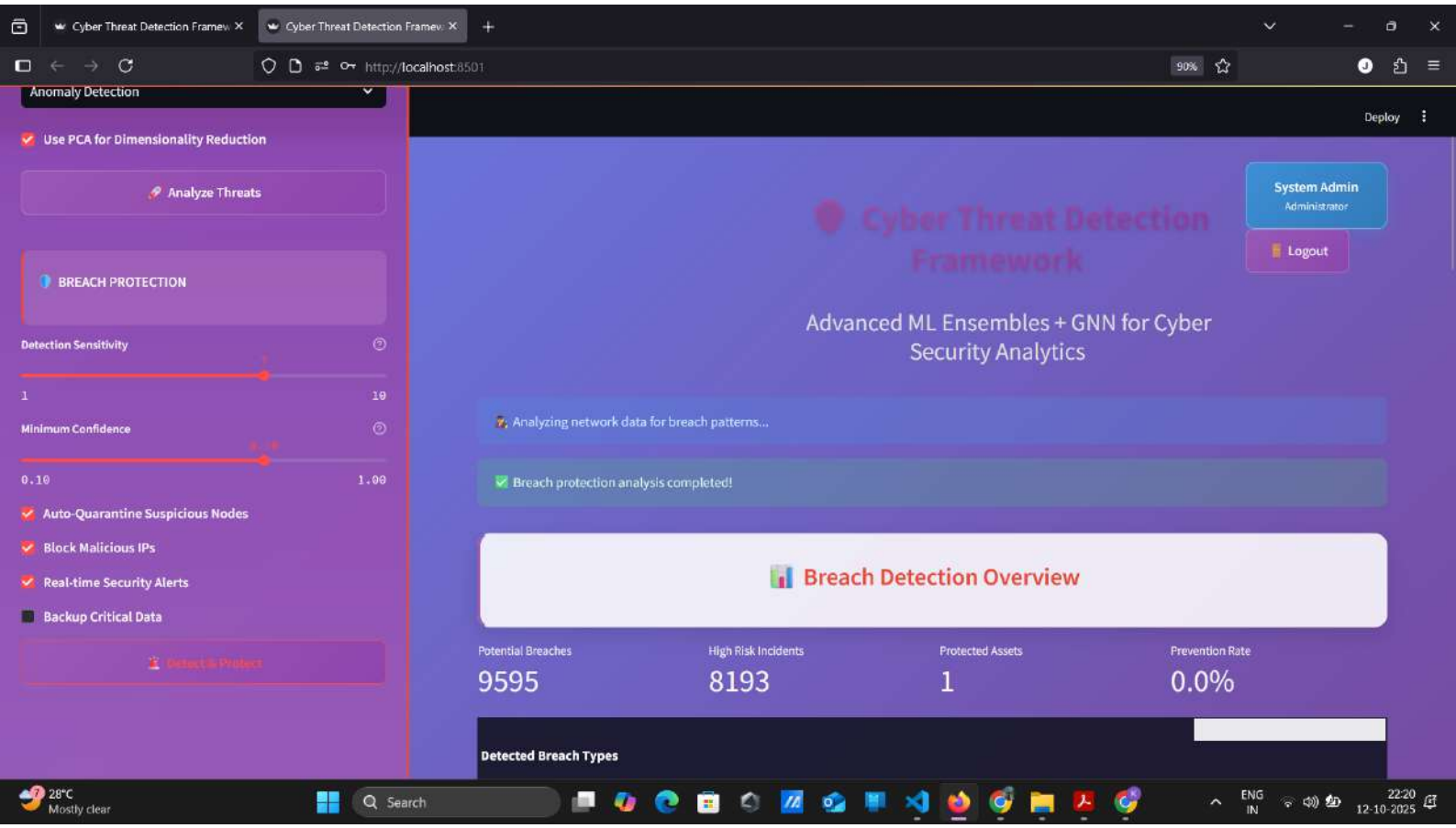
Export Results

28°C Mostly clear

Search

ENG IN

22:19 12-10-2025


Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Anomaly Detection
Use PCA for Dimensionality Reduction
Analyze Threats
BREACH PROTECTION
Detection Sensitivity
1
10
Minimum Confidence
0.10
1.00
Auto-Quarantine Suspicious Nodes
Block Malicious IPs
Real-time Security Alerts
Backup Critical Data
Deploy
System Admin
Administrator
Logout
Cyber Threat Detection Framework
Advanced ML Ensembles + GNN for Cyber Security Analytics
Analyzing network data for breach patterns...
Breach protection analysis completed!
Breach Detection Overview
Potential Breaches
9595
High Risk Incidents
8193
Protected Assets
1
Prevention Rate
0.0%
Detected Breach Types
28°C
Mostly clear
Search
ENG
IN
22:20
12-10-2025

Cyber Threat Detection Framew × Cyber Threat Detection Framew × +

http://localhost:8501 90%

Anomaly Detection

Use PCA for Dimensionality Reduction

Analyze Threats

BREACH PROTECTION

Detection Sensitivity

1 10

Minimum Confidence

0.10 1.00

Auto-Quarantine Suspicious Nodes

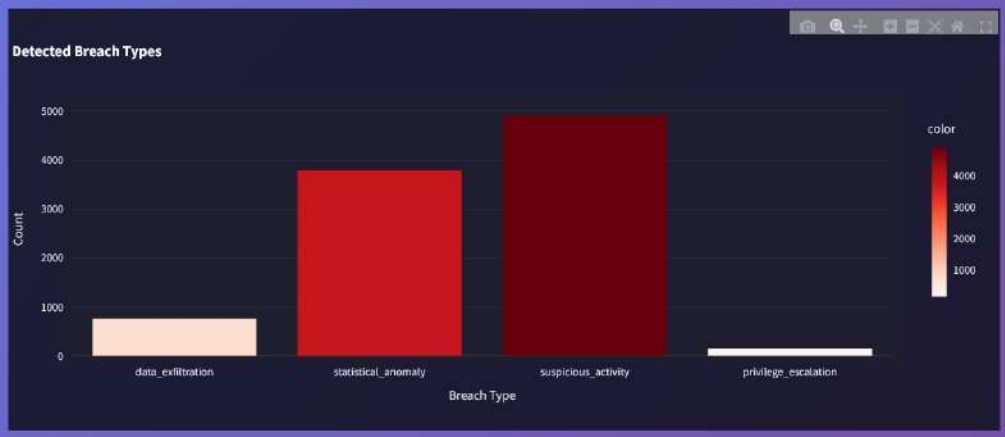
Block Malicious IPs

Real-time Security Alerts

Backup Critical Data

Detect & Protect

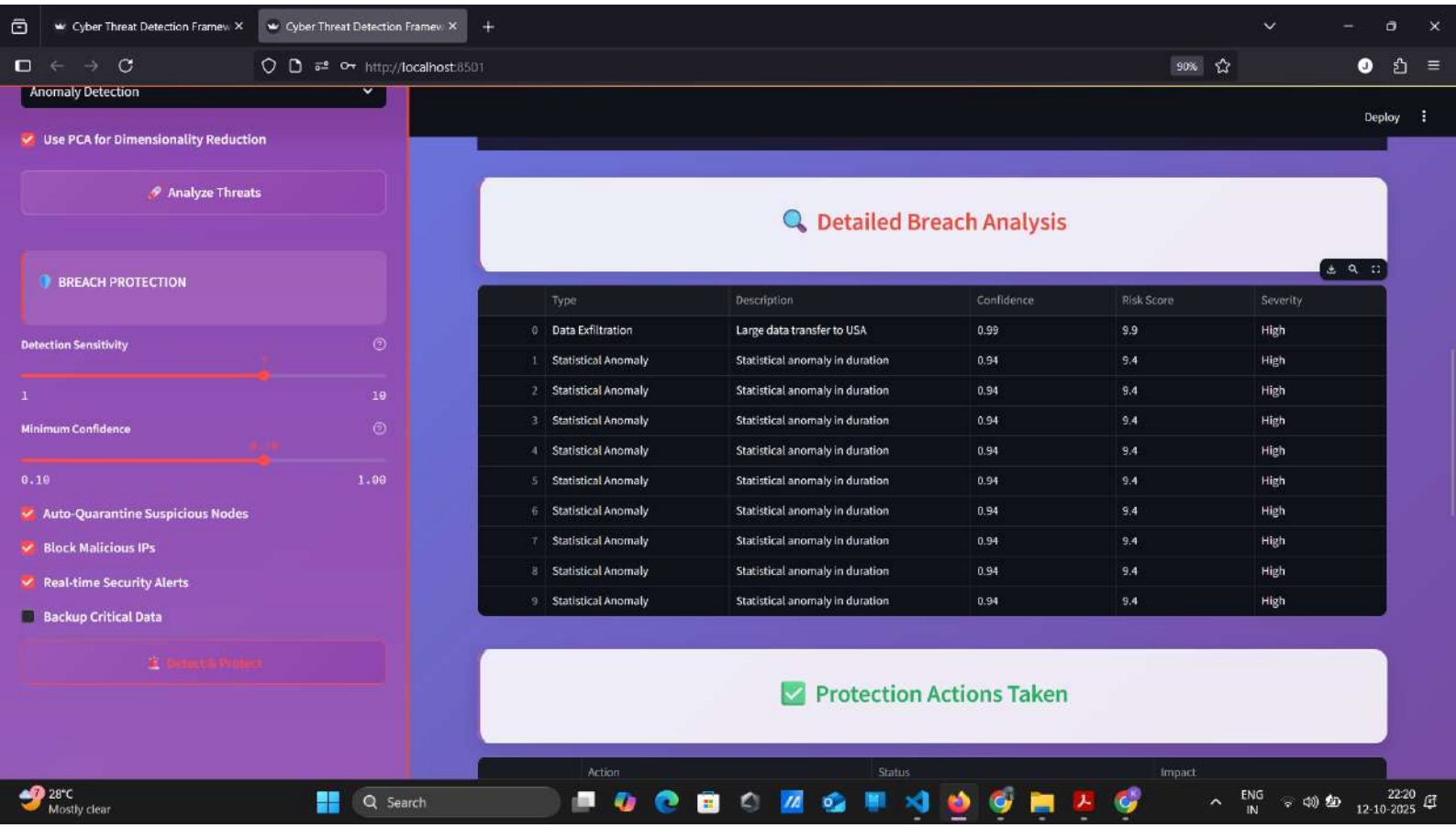
Deploy

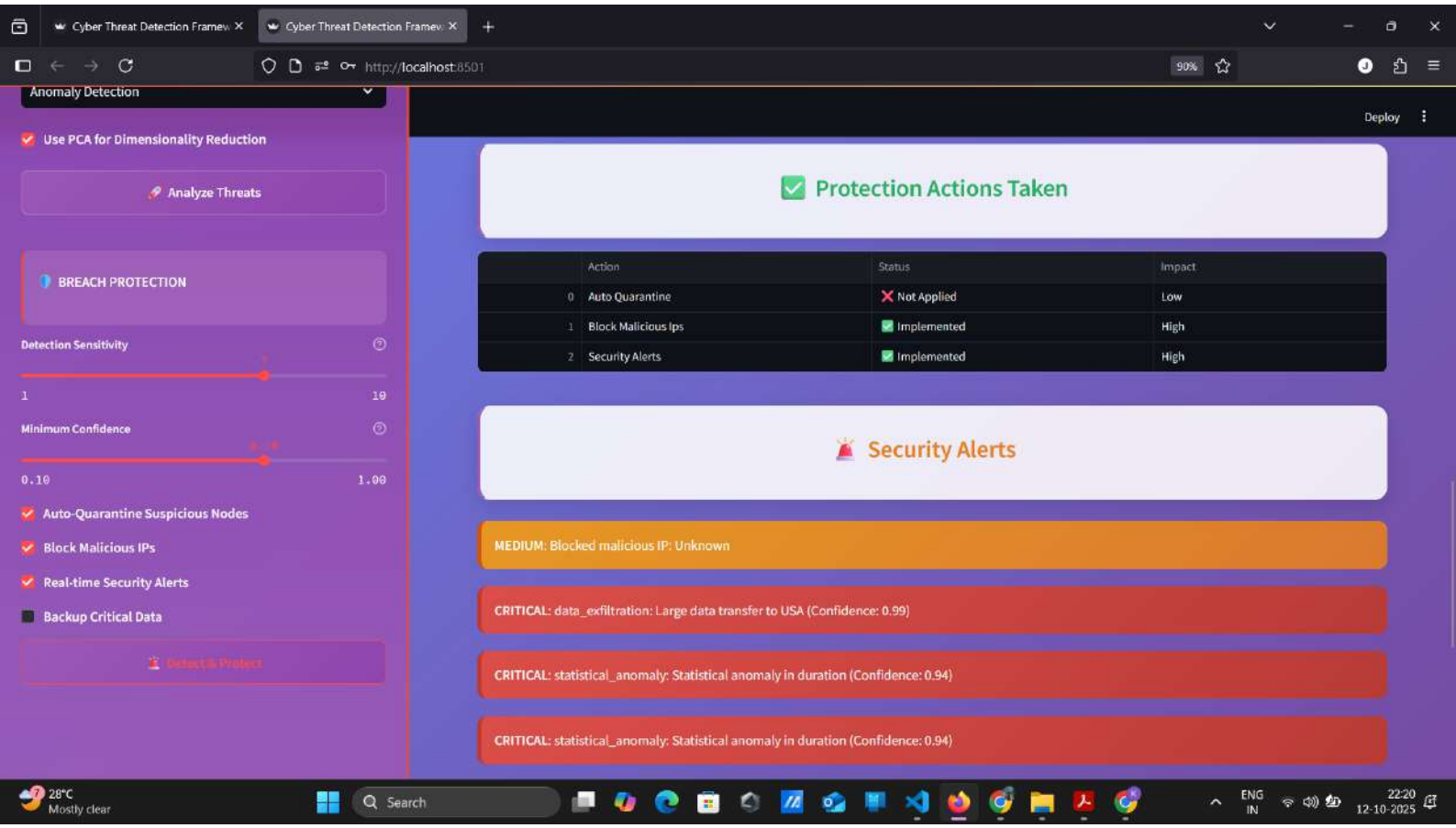


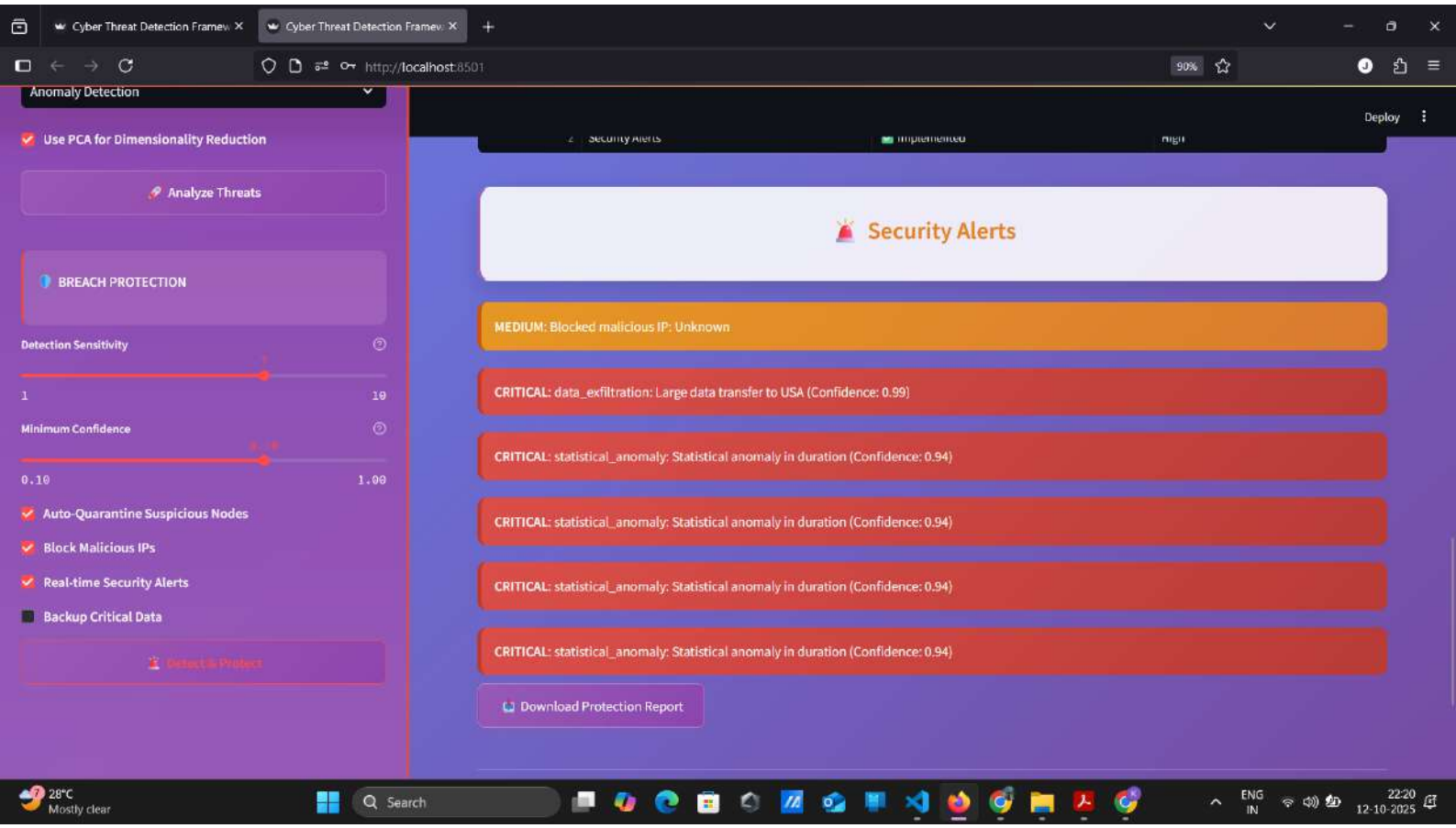
Detailed Breach Analysis

	Type	Description	Confidence	Risk Score	Severity
0	Data Exfiltration	Large data transfer to USA	0.99	9.9	High
1	Statistical Anomaly	Statistical anomaly in duration	0.94	9.4	High

28°C Mostly clear Search ENG IN 22:20 12-10-2025


Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Anomaly Detection
Use PCA for Dimensionality Reduction
Analyze Threats
BREACH PROTECTION
Detection Sensitivity
1
10
Minimum Confidence
0.10
1.00
Auto-Quarantine Suspicious Nodes
Block Malicious IPs
Real-time Security Alerts
Backup Critical Data
Deploy
Detailed Breach Analysis
Type
Description
Confidence
Risk Score
Severity
0 Data Exfiltration Large data transfer to USA 0.99 9.9 High
1 Statistical Anomaly Statistical anomaly in duration 0.94 9.4 High
2 Statistical Anomaly Statistical anomaly in duration 0.94 9.4 High
3 Statistical Anomaly Statistical anomaly in duration 0.94 9.4 High
4 Statistical Anomaly Statistical anomaly in duration 0.94 9.4 High
5 Statistical Anomaly Statistical anomaly in duration 0.94 9.4 High
6 Statistical Anomaly Statistical anomaly in duration 0.94 9.4 High
7 Statistical Anomaly Statistical anomaly in duration 0.94 9.4 High
8 Statistical Anomaly Statistical anomaly in duration 0.94 9.4 High
9 Statistical Anomaly Statistical anomaly in duration 0.94 9.4 High
Protection Actions Taken
Action
Status
Impact
28°C
Mostly clear
Search
ENG
IN
22:20
12-10-2025


Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Anomaly Detection
Use PCA for Dimensionality Reduction
Analyze Threats
BREACH PROTECTION
Detection Sensitivity
1
10
Minimum Confidence
0.10
1.00
Auto-Quarantine Suspicious Nodes
Block Malicious IPs
Real-time Security Alerts
Backup Critical Data
Deploy
Protection Actions Taken
Action
Status
Impact
0 Auto Quarantine Not Applied Low
1 Block Malicious Ips Implemented High
2 Security Alerts Implemented High
Security Alerts
MEDIUM: Blocked malicious IP: Unknown
CRITICAL: data_exfiltration: Large data transfer to USA (Confidence: 0.99)
CRITICAL: statistical_anomaly: Statistical anomaly in duration (Confidence: 0.94)
CRITICAL: statistical_anomaly: Statistical anomaly in duration (Confidence: 0.94)
28°C
Mostly clear
Search
ENG
IN
22:20
12-10-2025


Cyber Threat Detection Framew
Cyber Threat Detection Framew
http://localhost:8501
90%
Anomaly Detection
Use PCA for Dimensionality Reduction
Analyze Threats
BREACH PROTECTION
Detection Sensitivity
1
10
Minimum Confidence
0.10
1.00
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