Healthcare Cybersecurity Analytics Platform

End-to-end analytics project focused on identifying, predicting, and prioritizing cybersecurity risks in healthcare environments while supporting HIPAA compliance and patient data protection.

Key Contributions

- Built machine learning models to predict ransomware risk and identify high-risk healthcare organizations using breach and operational data
- Developed anomaly detection techniques to flag unauthorized or suspicious access to electronic health records (PHI breach detection)
- Designed cyber risk scoring models for medical IoT devices based on vulnerability exposure and patch management practices
- Implemented HIPAA compliance analytics to monitor access violations, audit gaps, and overall security posture
- Estimated financial and operational impact of healthcare data breaches using predictive modeling
- Created executive dashboards to visualize cyber risk scores, compliance status, and security insights

Tools & Technologies

Python, SQL, scikit-learn, anomaly detection, risk modeling, Tableau / Power BI