COURSE SYLLABUS

AI Security Monitoring and Incident Response Course (Self-Paced)

Eight hours of self-paced AI security monitoring and incident response: the four monitoring categories, a signals table that maps what you observe to what it means, and the containment actions specific to AI systems.

> Group classes (Live Online) and onsite training are available for this course. For more information, email onsite@graduateschool.edu or visit: https://www.graduateschool.edu/courses/ai-security-monitoring-and-incident-response-self-paced



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Course Outline

Module 1

- Foundations: The AI Security Landscape and Federal Policy Context (1h50)
- Why AI systems need a different security lens
- The shared vocabulary of data poisoning, adversarial examples, prompt injection, model drift, model extraction and supply-chain risk
- What counts as an AI incident, covering malicious, accidental and environmental causes
- The specific current guidance that bears on monitoring and incident response
- Who you work with day to day

Module 2

- AI Security Monitoring Practices (1h50)
- What continuous monitoring means for high-impact AI systems
- The four monitoring categories of data quality and integrity, model performance and behavior, access and usage, and output and impact
- Baseline and anomaly detection, threshold alerting, adversarial input detection and human-in-the-loop review
- Risk-based security logging built on continuous event monitoring and threat hunting capability areas
- A signals table mapping observed patterns to likely causes

Module 3

- Identifying and Classifying AI Security Incidents (1h50)
- Recognizing an AI security incident
- The evidence and artifacts unique to AI incidents
- Classifying severity by impact on safety, legal rights, benefits, critical infrastructure and sensitive data
- The initial triage sequence
- A prompt-injection case scenario worked end to end

Module 4

- AI Incident Response, Reporting, and Post-Incident Actions (1h50)
- The four-phase lifecycle of preparation, detection and analysis, containment, eradication and recovery, and post-incident activity, each mapped to AI-specific activity
- Containment actions specific to AI systems
- Internal reporting and escalation
- Root cause analysis, updating impact assessments and monitoring plans, revalidation before return to automated operation, and when stakeholder communication is warranted