DevSecOps for ML: Securing Your Model Supply Chain

Building Trustworthy AI Systems

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AI is Everywhere, But is it Secure?

ML Everywhere

Development speed outpaces security

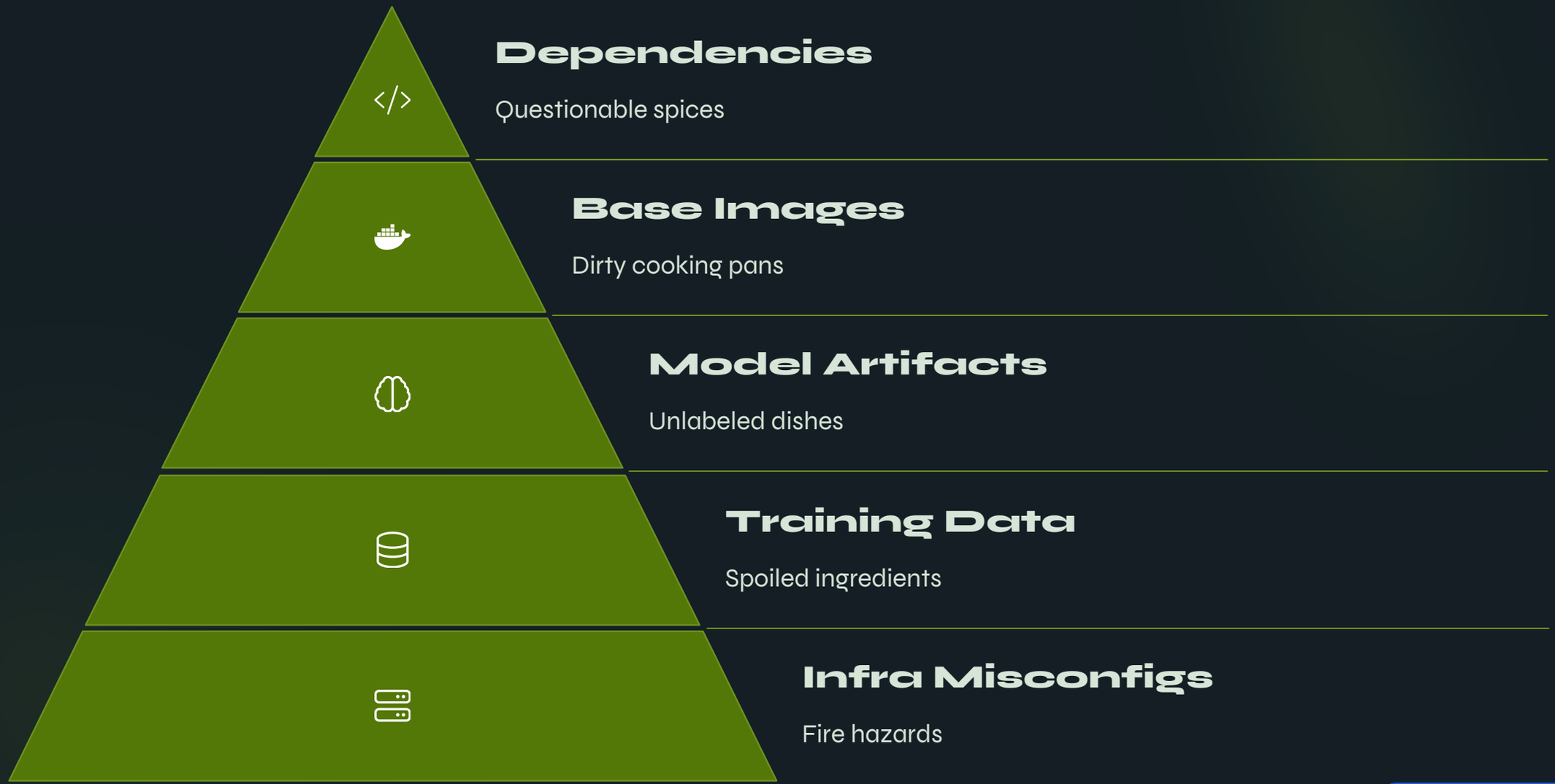
MLOps Complexity

DevOps for ML with more moving parts

Safety Risk

Like running a restaurant with no food safety rules

Understanding the ML Attack Surface



Dependencies

Questionable spices

Base Images

Dirty cooking pans

Model Artifacts

Unlabeled dishes

Training Data

Spoiled ingredients

Infra Misconfigs

Fire hazards

Shifting Left: Integrating Security into MLOps

1. **Plan**
   Security requirements defined early
2. **Code**
   Secure coding practices
3. **Build**
   Automated security testing
4. **Deploy**
   Verified secure artifacts only

The Right Tools for Secure MLOps

Artifactory

Secure, universal pantry for all artifacts

Xray

Continuous scanner for vulnerabilities

JFrog Platform

Smart pantry + ingredient scanner

Taming Artifact Chaos with Artifactory

Development

Create models and code

CI

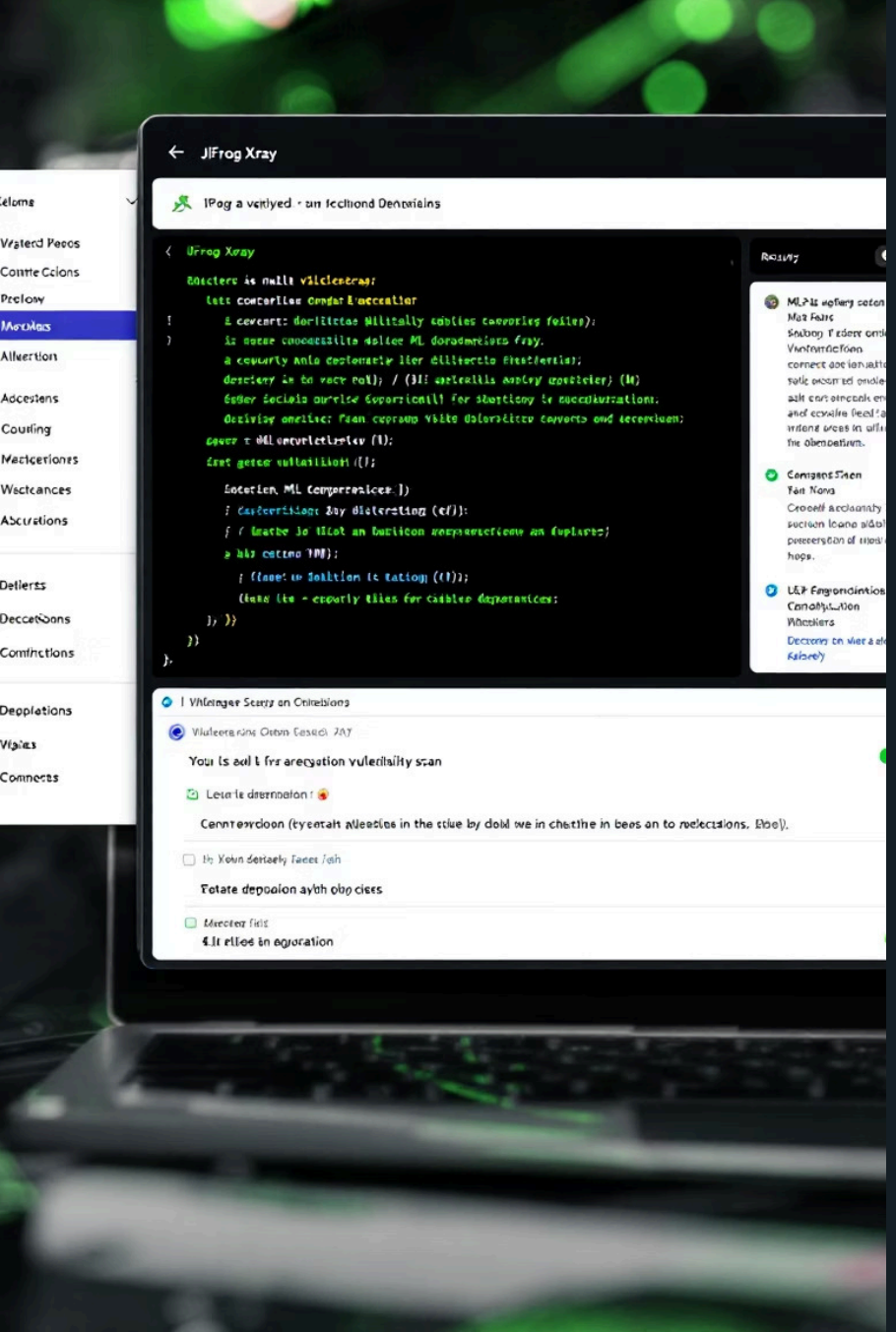
Build and package

3 Artifactory

Central trusted repository

Deployment

Verified artifacts only



Uncovering Risks with Xray

Auto-Scan

Scans on upload/download

Vulnerability Detection

Finds CVEs and security issues

Deep Inspection

Recursive scanning of dependencies

Building Security Gates in Your Pipeline

Define Policies

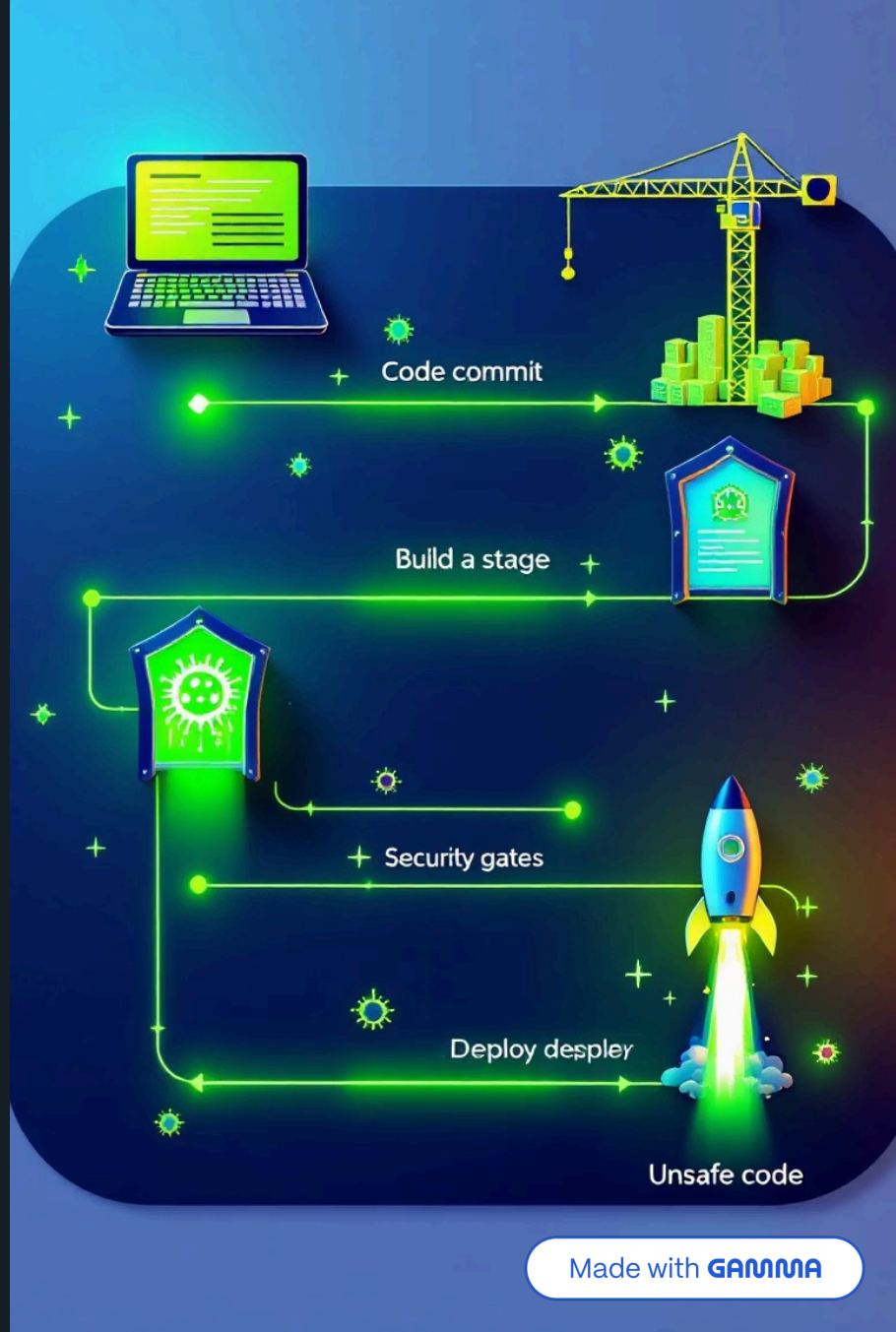
Set security thresholds and rules

Integrate CI/CD

Add Xray scan steps to pipeline

Enforce Gates

Block unsafe artifacts from deployment



The Secure MLOps Loop in Action

Code Commit

Developer pushes ML code

Build

CI system creates artifacts

Xray & Policy

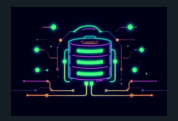
Scans and enforces security

Artifactory

Stores all artifacts securely

Secure MLOps: Key Takeaways





MLOps needs DevSecOps. Principles scale to ML. Artifactory centralizes. Xray inspects. Automation enables security at speed.

Explore Secure MLOps Hands-On

Scan the QR code to access our detailed tutorial.

Learn how to set up Artifactory, Xray, and secure your ML pipeline step-by-step.

New to MLOps? Check out our blog for deeper insights and beginner guidance.

Thanks for joining this talk! Reach out anytime for more examples or questions.