# Exploring the AI Incident Documentation Practice

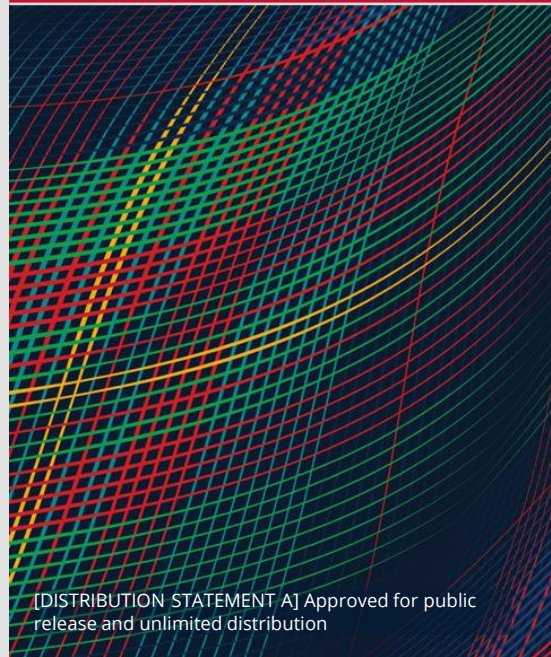
**MAY 14, 2026**

Violet Turri





Carnegie Mellon University
Software Engineering Institute



# Document Markings



This material is based upon work funded and supported by the Department of War under Air Force Contract Nos. FA8702-15-D-0002, and FA870225DB003 with Carnegie Mellon University for the operation of the Software Engineering Institute, a federally funded research and development center.



DM26-0516

# Challenges Understanding AI Systems and Incidents

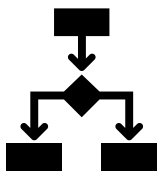


**Where: Context-Specific Failures**

AI systems and their behaviors are tightly bound to deployment context, data, and model components

**When: Factors Throughout the Timeline**

AI system lifecycles include many inflection points where things can go wrong, e.g. data updates, model retraining, post-incident responses



**Why: Challenges with Explainability**

Challenging to determine underlying behaviors and causes from observable characteristics, open issues in explainability

# Reporting Mechanisms in High-Stakes Industries

Carnegie Mellon University Software Engineering Institute

**Aviation**

- Systematic collection, analysis, investigation, and sharing of incident reports to drive safety improvements
- Reports capture the full timeline from loading to disembarkation
- Options for confident, de-identified reporting

**Cyber**

- Unique identifiers for publicly known vulnerabilities and standardized vocabularies
- Sharing and analysis across organizations
- Reporting requirements to ensure first-hand, validated data

**Opportunity:**

Models for centralized, mandatory reporting mechanisms that enable first-hand and/or anonymized accounts with high levels of oversight

# Leveraging Databases of AI Systems



**Government-run AI System Registries**

Provide public, high-level details on system such as:

- System purpose
- Inputs / outputs
- Techniques used
- Responsible parties

**Controversial AI Systems Catalogues**

Identify systems with known or potential harms, including:

- Location
- Sector
- Ethical concerns

**Opportunity**

Link systems stored in AI registries to incident reports to help:

- Trace the full lifecycle of an AI system
- Enable proactive risk monitoring

# Ideas for Augmenting Existing Practices

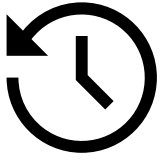


**Government Oversight:**

A mandatory, federally overseen repository would enable first-hand, validated reports that can be investigated

**Anonymous Submissions:**

A de-identified reporting channel would encourage whistleblowers and engineers to share detailed failure information without fear of repercussion



**Proactive Documentation:**

Maintaining a database of AI systems *before* incidents occur could help track lifecycles and detect early warning signs