



# Framework for Identifying Highly Consequential AI Use Cases

The Special Competitive Studies Project in collaboration with John Hopkins University Applied Physics Lab (JHUAPL) developed a framework for identifying AI use cases or classes of use that may be highly consequential for society— whether harmful or beneficial—to help regulators determine on which AI uses to focus their regulatory efforts.

## 4 Principles for American AI Governance

- 1 Govern AI use cases by outcome and sector.
- 2 Empower and modernize existing regulators.
- 3 Focus governance on high-consequence use cases.
- 4 Strengthen non-regulatory AI governance.

## The Need for a High Consequence Framework

- We must balance innovation with regulation.
- The U.S. government must focus their efforts on AI that has the most significant beneficial and harmful impacts on society.
- While the U.S. must mitigate the risks that AI presents, it is critical also to harness the tremendous benefits AI offers for our society.
- This risk-based approach aligns with the EU’s AI Act, the NIST AI Risk Management Framework, the Blueprint for an AI Bill of Rights, and the Executive Order on Safe, Secure, and Trustworthy Artificial Intelligence.

## When to Apply the Framework

- Regulators foresee a new application for AI;
- New applications for AI is under development or proposed to a regulatory body; or
- An existing AI system has created a highly consequential beneficial or harmful impact that triggers an ex-post facto regulatory review.

## Implementation

1

### Preliminary Analysis

Determine whether the AI use has foreseeable harms or benefits as an initial filter to determine whether a fuller assessment is needed.

2

### Parallel Analysis of Harms and Benefits

Conduct a more comprehensive parallel analysis of categorical and specific harms and benefits.

3

### Final Decision on High Consequence

Using an assessment of the magnitude of benefits and harms, determine if the AI use case is of high consequence and necessitates next steps to regulate the AI development.

4

### Periodic Reassessment

Periodically monitor sectoral AI use to determine if the list of AI systems identified as highly consequential remains appropriate for that sector.

The framework provides ten corresponding categories of harms and benefits and specific harms and benefits for each category (see Appendix 1 of framework), as examples, with the recognition that specific harms/benefits will be unique to sectors. It also provides factors to calculate the magnitude (e.g., probability and scope) of identified harm(s) and benefit(s). Lastly, the framework offers ways to make high consequence determinations based on quantitative and qualitative analyses.

## Harm Categories

Physical Injury

Emotional or Psychological Injury

Opportunity Loss

Economic Loss

Liberty Loss

Privacy Loss

Negative Environmental Impact

Manipulation

Social Detriment

Operational Degradation

## Benefit Categories

Physical Health

Emotional or Psychological Health

Opportunity Access

Economic Access

Liberty Protection

Privacy Protection

Positive Environmental Impact

Incentivization

Social Improvement

Operational Improvement