Regulation and Regulatory Processes
Cataloging the use of AI/ML Tools in the Federal Government

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Abstract

In February 2020, researchers from Stanford University and New York University submitted a report to the Administrative Conference of the United States (ACUS). The report, titled "Government by Algorithm: Artificial Intelligence in Federal Administrative Agencies", sought to "provide a first-of-its-kind snapshot of the current state of federal government development and deployment of AI". The report documented **157** AI use cases across **64** agencies. In December 2020, Executive Order 13960 was introduced, requiring all federal agencies to prepare and publish an inventory of its non-classified and non-sensitive use cases of AI, including current and planned uses, consistent with the agency's mission. 3 years on, our aim is to **create a comprehensive catalog** of **Artificial Intelligence/Machine Learning use cases**, across an extensive number of federal agencies.

Methodology

Phase 1: Record all AI use cases in inventories submitted by federal agencies, in compliance with Executive Order 13960: "Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government", recorded on the National Artificial Intelligence Initiative website (AI.gov).

Phase 2: Not all inventories were listed on AI.gov. Phase 2 involved **web searching** to check if other agencies have published use case inventories.

Phase 3: Phase 3 involved conducting **domain-restricted searches** on Google to look for individual use cases that were not compiled into inventories.

Phase 4: Phase 4 involved searching law reviews and journals on **Lexis+**, to continue gathering individual use cases.

Next Phase: With the catalog assembled, each use case will then be analyzed and labelled, to identify patterns in the policy areas and types of use case.

Scope

Total Number of Agencies Examined: 239 agencies, including parent agencies and sub-agencies (eg. Department of Commerce is the parent agency of the International Trade Administration).

Agencies Excluded: The defense and national security related agencies have been omitted, as they have been exempted from Executive Order 13960 and need not publicly publish their AI/ML use cases.

Results and Findings

Phase 1

410 use cases were recorded across the **20** parent-level agencies* that submitted use case inventories. The top five agencies are displayed below.

Department of the Interior	65
Department of Health and Human Services	50
Department of Commerce	49
Department of Energy	45
Department of Veterans Affairs	40

Phase 2

182 use cases were recorded across **4** parent-level agencies that submitted use case inventories, but were not recorded in AI.gov.

Department of Energy	117
National Aeronautics and Space Administration (NASA)	60
Office of Personnel Management (OPM)	3
Federal Retirement Thrift Investment Board	2

Phase 3

122 unique use cases across **53** agencies were recorded.

*Parent-level agencies refers to the highest overall organizational unit (e.g., department) under the umbrella of which subagencies can be situated.

Phase 4

39 unique use cases across **21** agencies were recorded.

Overall Findings

Out of the 239 federal agencies examined, **87** were found to have AI/ML use cases with information available in the public domain. A total of **753 use cases** were identified, a huge increase from the previous study in 2020.
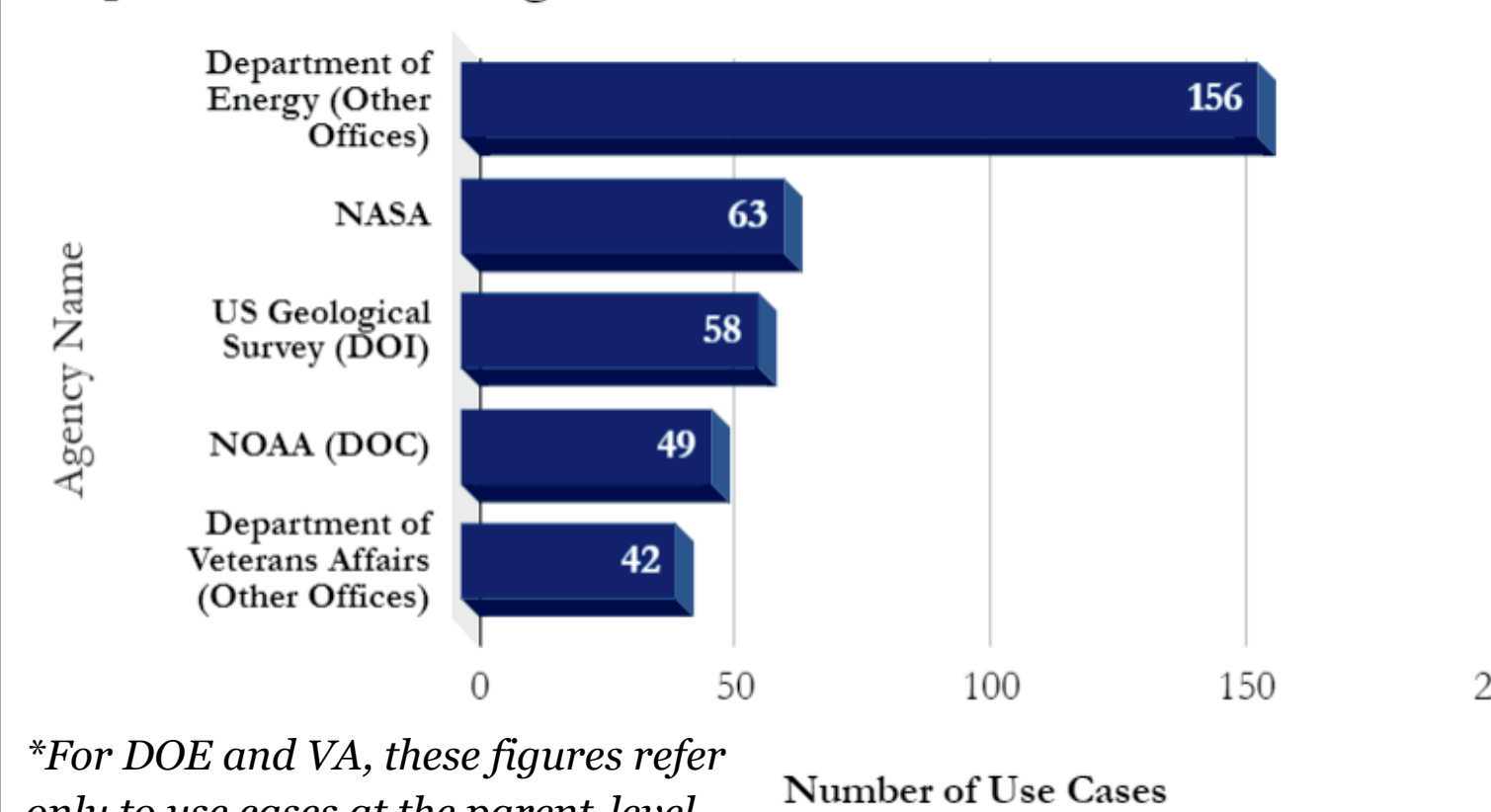
Agencies with Highest Number of Use Cases

Number of Use Cases Across Cabinet Agencies
Including sub-agencies

These figures include use cases at the parent level within the department, as well as within any subagencies.
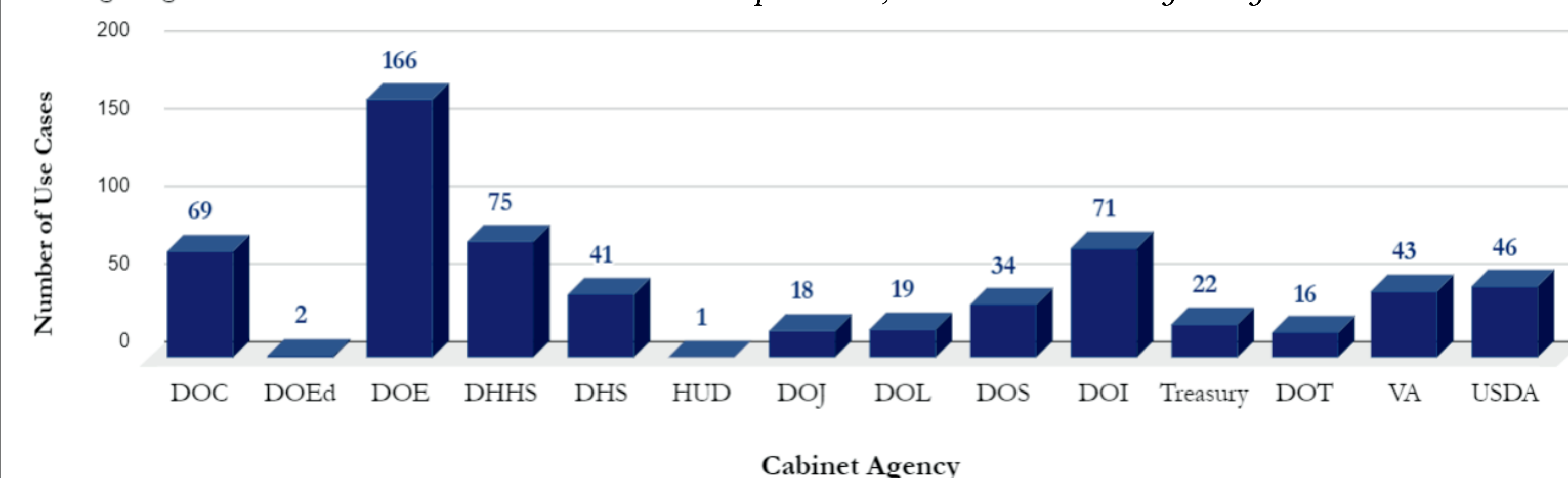
Top Five Individual Agencies with Most AI/ML Use Cases

For DOE and VA, these figures refer only to use cases at the parent-level.

2020 Study vs. Present Study
Comparing use cases and number of agencies with use cases