

Scores for Hugging Face on the 2023 Foundation Model Transparency Index

Background

1. Please see the paper describing the Foundation Model Transparency Index in order to understand what this document includes. The paper provides necessary background on (i) what these indicators are and why they were chosen, (ii) our standardized process for scoring the transparency of foundation model developers, and (iii) what these scores mean in context.
2. This document contains only information that was publicly available before September 15, 2023. It has not been updated and should be interpreted as a snapshot of transparency as of September 15, 2023.
3. In order to assess the transparency of foundation model developers, we used a rigorous, standardized [search protocol](#) to find publicly available information related to these indicators. You can find more information about this search protocol in the paper describing the Foundation Model Transparency Index.
4. We evaluate every company in this same way—you can find scoring documents for the other companies [here](#).
5. We evaluate each company on 100 indicators of transparency. You can find the definition of each indicator and additional information about how each indicator was scored [here](#).
6. Scores for each indicator are either 0 or 1. If the score is a 0, we do not provide a source for the score because our standardized search protocol (which includes many relevant sources) did not yield enough information to award a point. If the score is a 1, we provide a source that includes the information we cite in the justification for the score.
7. We evaluate each company on the basis of its flagship foundation model; in the case of Hugging Face, we evaluate BLOOMZ.
8. In advance of releasing the Foundation Model Transparency Index, we reached out to Hugging Face for comment (along with the 9 other companies we evaluated) and offered an opportunity to provide feedback on the index and the organization's scores.

Scores for Each Indicator

1. Upstream → Data → Data Size
 - Score: 1
 - Justification: The BLOOMZ paper makes clear that BLOOM is trained on 350B tokens on ROOTS and BLOOMZ adapts BLOOM by training on a further 13B tokens on xP3.
 - Source: <https://arxiv.org/pdf/2211.01786.pdf>
2. Upstream → Data → Data Sources
 - Score: 1
 - Justification: The BLOOMZ paper makes clear that BLOOM was trained on ROOTS and that BLOOMZ adapts BLOOM by training on xP3. The data sources for both ROOTS and xP3 are extensively documented. Note: For subsequent indicators that reference a data decomposition, our standard is that these indicators will require the information of both ROOTS and xP3. On the other hand, for indicators that do not reference a data decomposition, our standard is that these indicators will require the information of at least ROOTS, given ROOTS is clearly the majority/bulk of the data.
 - Source: <https://arxiv.org/pdf/2211.01786.pdf>
3. Upstream → Data → Data Creators
 - Score: 0
 - Justification: The ROOTS paper and BigScience Catalogue describe the data in detail, but do not breakdown the human creators.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
4. Upstream → Data → Data Source Selection
 - Score: 1
 - Justification: Source selection for ROOTS is discussed extensively, though exact criteria are not fully clear given many of the datasets are created bottom-up (e.g. crowdsourcing via local hackathons). In addition, source selection and language distribution are made clear for xP3 in the BLOOMZ paper.
 - Source: <https://arxiv.org/pdf/2303.03915.pdf>

5. Upstream → Data → Data Curation
 - Score: 1
 - Justification: Extensive details are provided on curating ROOTS (e.g. filtering crowdsourced data, filtering the OSCAR corpus based on Common Crawl). In addition, curation details are made clear for xP3 in the BLOOMZ paper.
 - Source: <https://arxiv.org/pdf/2211.01786.pdf>
6. Upstream → Data → Data Augmentation
 - Score: 1
 - Justification: The exact details of augmenting P3 to produce xP3 are very clearly described in the BLOOMZ paper.
 - Source: <https://arxiv.org/pdf/2211.01786.pdf>
7. Upstream → Data → Harmful Data Filtration
 - Score: 1
 - Justification: Exact filter used for OSCAR filtering, including language-specific flagged words, are disclosed for ROOTS.
 - Source: <https://arxiv.org/pdf/2211.01786.pdf>
8. Upstream → Data → Copyrighted data
 - Score: 0
 - Justification: The BLOOM paper discusses copyright in sufficient detail for ROOTS, and the ROOTS data viewer provides direct access to a copyright classification, but the BLOOMZ paper and other materials do not discuss copyright at all for xP3. As a result, given this indicator requires copyright status with respect to a decomposition, no point is awarded.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
9. Upstream → Data → Data License
 - Score: 0
 - Justification: The BLOOM paper discusses license in sufficient detail for ROOTS, and the ROOTS data viewer provides direct access to a license classification, but the BLOOMZ paper and other materials do not discuss license at all for xP3. As a result, given this indicator requires license status with respect to a decomposition, no point is awarded.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

10. Upstream → Data → Personal Information in Data

- Score: 0
- Justification: The BLOOM paper discusses personal information and PII in sufficient detail for ROOTS, and the ROOTS data viewer provides direct access to a PII classification, but the BLOOMZ paper and other materials do not discuss PII at all for xP3. As a result, given this indicator requires personal information status with respect to a decomposition, no point is awarded.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

11. Upstream → Data Labor → Use of Human Labor

- Score: 1
- Justification: Involvement of people in crowdsourcing the ROOTS corpus is discussed.
- Source: <https://arxiv.org/pdf/2303.03915.pdf>

12. Upstream → Data Labor → Employment of Data Laborers

- Score: 1
- Justification: BLOOMZ points to ROOTS and BLOOM. The BLOOM paper discloses preprocessing phases in figure 2, says they are semi-automatic (i.e. there is human labor involved). ROOTS paper says which of the volunteers who built the dataset (i.e. authors) were responsible for cleaning, filtering, deduplication, and removal of PII, and says where they are employed.
- Source: <https://arxiv.org/pdf/2211.01786.pdf> and <https://arxiv.org/pdf/2303.03915.pdf> and <https://arxiv.org/pdf/2211.05100.pdf>

13. Upstream → Data Labor → Geographic Distribution of Data Laborers

- Score: 1
- Justification: BLOOMZ points to ROOTS and BLOOM. The BLOOM paper discloses preprocessing phases in figure 2, says they are semi-automatic (i.e. there is human labor involved). ROOTS paper says which of the volunteers who built the dataset (i.e. authors). Geographic location for hackathon participants also disclosed, and the affiliation of paper authors (some of whom conduct data labor) is disclosed. Knowing where the authors are employed is often sufficient information to know where they are based as these particular organization are, for example, not by and large global corporations with employees around the world.
- Source: <https://arxiv.org/pdf/2303.03915.pdf> and <https://arxiv.org/pdf/2201.10066.pdf>

14. Upstream → Data Labor → Wages

- Score: 1
- Justification: Data laborers are disclosed to be volunteers; this presumably means that Hugging Face did not compensate them for data labor.
- Source: <https://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

15. Upstream → Data Labor → Instructions For Creating Data

- Score: 1
- Justification: Instructions disclosed for filtering, removal of PII, data sourcing. e.g. for one of the filters, “Keep only the words associated with porn and systematically used in a sexual context. Remove words that can be used in medical, scientific, colloquial (without referring systematically to porn), or everyday contexts. Remove all insults. Remove all words referring to race or sexual orientation.”
- Source: <https://arxiv.org/pdf/2303.03915.pdf> and <https://arxiv.org/pdf/2201.10066.pdf>

16. Upstream → Data Labor → Labor Protections

- Score: 0
- Justification: No information is provided on the presence or absence of labor protections. In particular, we note that individuals provide data voluntarily and without financial compensation, but this does not confirm the absence of labor protections.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

17. Upstream → Data Labor → Third Party Partners

- Score: 1
- Justification: Many individuals contributed in the crowdsourcing effort: exact affiliations are not clearly disclosed, but information is provided in the BigScience data catalogue. In general, given the unique nature of BigScience as intrinsically a collective that is only partially Hugging Face, it is not immediately clear how to define a third party partner.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

18. Upstream → Data Access → Queryable External Data Access

- Score: 1
- Justification: ROOTS is queryable via a tool built for precisely this type of access and xP3 is released publicly.
- Source: <https://huggingface.co/spaces/bigscience-data/roots-search>

19. Upstream → Data Access → Direct External Data Access
- Score: 1
 - Justification: Full access to ROOTS is available via a form and xP3 is released publicly.
 - Source:
https://docs.google.com/forms/d/e/1FAIpQLSdq50O1x4dkdGI4dwsmchFuNI0KCWEDiKUYxvd0r0_sl6FfAQ/viewform?usp=send_form
20. Upstream → Compute → Compute Usage
- Score: 0
 - Justification: Compute usage for BLOOMZ is not disclosed. BLOOM's compute usage in FLOPs is implicitly reported given that 156 TFLOPS is reported for GPU utilization, along with the number of GPUs and number of compute hours. However, the additional compute usage in FLOPs for BLOOMZ is not provided in any form.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
21. Upstream → Compute → Development Duration
- Score: 0
 - Justification: BLOOM took 3.5 months and 1.1M GPU hours to train. Development duration for further adaptation for BLOOMZ is not disclosed.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
22. Upstream → Compute → Compute Hardware
- Score: 1
 - Justification: BLOOM was trained on 384 NVIDIA A100 80GB GPUs. Hardware for further adaptation for BLOOMZ is 288 NVIDIA A100 80GB GPUs.
 - Source: <https://arxiv.org/pdf/2211.05100.pdf>
23. Upstream → Compute → Hardware Owner
- Score: 0
 - Justification: Hardware for BLOOM is Jean Zay, a French government-funded supercomputer owned by GENCI and operated by IDRIS. Hardware for further adaptation for BLOOMZ is not described.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

24. Upstream → Compute → Energy Usage

- Score: 0
- Justification: BLOOM's energy usage is reported as 433 MWh. Energy for further adaptation for BLOOMZ is not described.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

25. Upstream → Compute → Carbon Emissions

- Score: 0
- Justification: BLOOM's carbon emissions are reported as 25 tons of CO₂eq. Emissions for further adaptation for BLOOMZ are not described.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

26. Upstream → Compute → Broader Environmental Impact

- Score: 0
- Justification: BLOOM's impacts beyond training are reported as 56 tons of CO₂eq (11 for equipment manufacturing, 55 for idle consumption). Impacts for further adaptation for BLOOMZ are not described.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

27. Upstream → Methods → Model Stages

- Score: 1
- Justification: BLOOM was trained on ROOTS corpus with clear training info; BLOOMZ is adapted from BLOOM by fine-tuning in a single stage on xP3.
- Source: <https://arxiv.org/pdf/2211.01786.pdf>

28. Upstream → Methods → Model Objectives

- Score: 1
- Justification: Objectives for BLOOM and further fine-tuning to produce xP3 are clear.
- Source: <https://arxiv.org/pdf/2211.05100.pdf> and <https://arxiv.org/pdf/2211.01786.pdf>

29. Upstream → Methods → Core Frameworks

- Score: 1
- Justification: Frameworks for BLOOM include Megatron-DeepSpeed for large-scale distributed training, PyTorch for overall deep learning framework, and apex for FP16 and further frameworks for BLOOMZ adaptation are made clear via code release.
- Source: <https://arxiv.org/pdf/2211.05100.pdf>

30. Upstream → Methods → Additional Dependencies
- Score: 1
 - Justification: The details for BLOOM and further adaptation to BLOOMZ make clear there are not additional dependencies, including through the release of code.
 - Source: <https://arxiv.org/pdf/2211.05100.pdf> and <https://arxiv.org/pdf/2211.01786.pdf>
31. Upstream → Data Mitigations → Mitigations for Personally Identifiable Information
- Score: 1
 - Justification: The filtering of PII is described extensively with the exact regular expression provided in the ROOTS paper.
 - Source: <https://arxiv.org/pdf/2303.03915.pdf>
32. Upstream → Data Mitigations → Mitigations for Copyright
- Score: 1
 - Justification: The BigScience Catalogue proactively encouraged participants to make “an effort to collect sources with an open license or without copyright”, which then used (as part of the same effort) in producing ROOTS.
 - Source: <https://arxiv.org/abs/2201.10066>
33. Model → Model Basics → Input Modality
- Score: 1
 - Justification: The input modality for BLOOMZ is text.
 - Source: <https://arxiv.org/pdf/2211.01786.pdf>
34. Model → Model Basics → Output Modality
- Score: 1
 - Justification: The output modality for BLOOMZ is text.
 - Source: <https://arxiv.org/pdf/2211.01786.pdf>
35. Model → Model Basics → Model Components
- Score: 1
 - Justification: Model components are described extensively (e.g. the use of ALiBi positional embeddings), including closely-related matters (e.g. the tokenizer).
 - Source: <https://arxiv.org/pdf/2211.01786.pdf>
36. Model → Model Basics → Model Size
- Score: 1
 - Justification: The model size is 176B parameters (dense model) with 3.6B embedding parameters and further specifics laid out extensively.
 - Source: <https://arxiv.org/pdf/2211.01786.pdf>

37. Model → Model Basics → Model Architecture

- Score: 1
- Justification: BLOOMZ employs a transformer decoder-only model architecture.
- Source: <https://arxiv.org/pdf/2211.01786.pdf>

38. Model → Model Basics → Centralized Model Documentation

- Score: 1
- Justification: Extensive documentation is centralized in BLOOM and BLOOMZ papers in addition to the BLOOM and BLOOMZ model cards.
- Source: <http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

39. Model → Model Access → External Model Access Protocol

- Score: 1
- Justification: Model weights are made accessible on Hugging Face's platform.
- Source: <http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

40. Model → Model Access → Black Box External Model Access

- Score: 1
- Justification: Model weights are made accessible on Hugging Face's platform.
- Source: <http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

41. Model → Model Access → Full External Model Access

- Score: 1
- Justification: Model weights are made accessible on Hugging Face's platform.
- Source: <http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

42. Model → Capabilities → Capabilities Description

- Score: 1
- Justification: Capabilities are described in BLOOMZ model card and paper, e.g. "capable of following human instructions in dozens of languages zero-shot"
- Source: <https://arxiv.org/pdf/2211.01786.pdf> and <http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

43. Model → Capabilities → Capabilities Demonstration
- Score: 1
 - Justification: Capabilities are demonstrated in the BLOOMZ papers.
 - Source: <https://arxiv.org/pdf/2211.01786.pdf> and <https://arxiv.org/abs/2211.05100>
44. Model → Capabilities → Evaluation of Capabilities
- Score: 1
 - Justification: There are evaluations on standard benchmarks of zero-shot multilingual generalization and other capabilities (e.g. XCOPA, XNLI evals)
 - Source: <https://arxiv.org/pdf/2211.01786.pdf>
45. Model → Capabilities → External Reproducibility of Capabilities Evaluation
- Score: 1
 - Justification: Evaluations of capabilities are conducted on standard benchmarks, meaning they are assumed to be sufficiently reproducible.
 - Source: <https://arxiv.org/pdf/2211.01786.pdf>
46. Model → Capabilities → Third Party Capabilities Evaluation
- Score: 0
 - Justification: No information found indicating third parties have evaluated BLOOMZ's capabilities.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
47. Model → Limitations → Limitations Description
- Score: 1
 - Justification: Limitations are given in Model Card in relation to prompt engineering, and more generally in BLOOMZ paper Section 6.
 - Source: <https://arxiv.org/pdf/2211.01786.pdf> and <http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>
48. Model → Limitations → Limitations Demonstration
- Score: 0
 - Justification: No significant demonstration of limitations, though Figure 16b in the BLOOMZ paper shows a failure case.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

49. Model → Limitations → Third Party Evaluation of Limitations

- Score: 1
- Justification: The weights of the model are openly released, meaning third parties can evaluate limitations.
- Source:
<http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

50. Model → Risks → Risks Description

- Score: 0
- Justification: Risks for BLOOMZ are not described, though the BLOOM paper describes risks for BLOOM.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

51. Model → Risks → Risks Demonstration

- Score: 0
- Justification: Risks for BLOOMZ are not demonstrated, though the BLOOM paper demonstrates risks for BLOOM.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

52. Model → Risks → Unintentional Harm Evaluation

- Score: 0
- Justification: No information found related to rigorous evaluations of the potential for the model to facilitate unintentional harm.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

53. Model → Risks → External Reproducibility of Unintentional Harm Evaluation

- Score: 0
- Justification: No information found related to the reproducibility of unintentional harm evaluations as there is no information found about the evaluations themselves.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

54. Model → Risks → Intentional Harm Evaluation

- Score: 0
- Justification: No information found related to rigorous evaluations of the potential for the model to facilitate intentional harm.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

55. Model → Risks → External Reproducibility of Intentional Harm Evaluation

- Score: 0
- Justification: No information found related to the reproducibility of intentional harm evaluations as there is no information found about the evaluations themselves.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

56. Model → Risks → Third-Party Risk Evaluation

- Score: 0
- Justification: No information found indicating that third parties have evaluated the risks of BLOOMZ.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

57. Model → Mitigations → Mitigations Description

- Score: 0
- Justification: No information found indicating mitigations related to risk for BLOOMZ.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

58. Model → Model Mitigations → Mitigations Demonstration

- Score: 0
- Justification: No information found related to illustrative examples of mitigations.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

59. Model → Model Mitigations → Mitigations Evaluation

- Score: 0
- Justification: No information found related to rigorous evaluations of model mitigations.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

60. Model → Model Mitigations → External Reproducibility of Mitigations Evaluation
- Score: 0
 - Justification: No information found to indicate mitigations evaluations are externally reproducible.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
61. Model → Model Mitigations → Third Party Mitigations Evaluation
- Score: 0
 - Justification: No information found to indicate mitigations can be evaluated by third parties.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
62. Model → Trustworthiness → Trustworthiness Evaluation
- Score: 0
 - Justification: No information found related to evaluations of robustness, reliability, hallucinations, uncertainty, calibration, causality, interpretability, or explainability.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
63. Model → Trustworthiness → External Reproducibility of Trustworthiness Evaluation
- Score: 0
 - Justification: No information found related to trustworthiness evaluations, and so no information was found about their reproducibility.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
64. Model → Inference → Inference Duration Evaluation
- Score: 1
 - Justification: Evaluation of inference latency for a well-specified task (generating 100 tokens given 7) on well-specified hardware (NVIDIA A100-80GB) is disclosed.
 - Source: <https://huggingface.co/blog/habana-gaudi-2-bloom>

65. Model → Inference → Inference Compute Evaluation

- Score: 0
- Justification: No information on FLOPs provided for inference evaluation, though significant information about hardware requirements is given in the assessment of inference duration.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

66. Downstream → Distribution → Release Decision-Making

- Score: 1
- Justification: BLOOMZ is a fine-tuned version of BLOOM, meaning we consider the initial release of BLOOM as a factor. Release decision-making protocol for BLOOM is provided in 3.6 of the paper; this constitutes a clear protocol that is more general to the developer. In particular it reads “Being mindful of the potentially harmful use-cases that BLOOM could enable, we chose to strike a balance between unrestricted open-access and responsible-use by including behavioral-use clauses (Contractor et al., 2022) to limit the application of the model towards potentially harmful use-cases. Such clauses are routinely being included in a growing class of “Responsible AI Licenses (RAIL)” that the community has been adopting when releasing their models. A distinguishing aspect of the RAIL license developed for BLOOM is that it separates licensing of the “source code” and “model”, as referenced by its trained parameters. It further includes detailed definitions of “use” and “derived works” of the model to ensure that anticipated downstream use by prompting, finetuning, distillation, use of logits and probability distributions are explicitly identified.”
- Source:
<http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>
and <https://arxiv.org/pdf/2211.05100.pdf>

67. Downstream → Distribution → Release Process

- Score: 1
- Justification: Model weights are made fully available upon release with no intermediate steps.
- Source:
<http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

68. Downstream → Distribution → Distribution Channels

- Score: 1
- Justification: Distribution channels disclosed include downloading the model on Hugging Face or GitHub and running inference on Amazon Sagemaker
- Source:
<https://web.archive.org/web/20230914203232/https://github.com/bigscience-workshop/xmtf> ;
<http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

69. Downstream → Distribution → Products and Services

- Score: 0
- Justification: No information found related to any products and services dependent on BLOOMZ.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

70. Downstream → Distribution → Detection of Machine-Generated Content

- Score: 0
- Justification: No information found related to a mechanism for the detection of content generated by BLOOMZ.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

71. Downstream → Distribution → Model License

- Score: 1
- Justification: BigScience RAIL License for the model (as well as Apache 2.0 for the source code) is disclosed.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

72. Downstream → Distribution → Terms of Service

- Score: 1
- Justification: BigScience RAIL license includes “IV Other Provisions” that constitute a form of terms of service. Hugging Face also provides broader terms of service.
- Source:
<https://web.archive.org/web/20230914203858/https://huggingface.co/spaces/bigscience/license> and
<https://web.archive.org/web/20230914163315/https://huggingface.co/terms-of-service>

73. Downstream → Usage Policy → Permitted, Restricted, and Prohibited Users

- Score: 0
- Justification: No information found that specifies who can and cannot use BLOOMZ.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

74. Downstream → Usage Policy → Permitted, Restricted, and Prohibited Uses

- Score: 1
- Justification: BigScience RAIL License's Attachment A on Use Restrictions includes prohibited uses, BLOOMZ model card includes a section on intended uses.
- Source:
<https://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>
and
<https://web.archive.org/web/20230914203858/https://huggingface.co/spaces/bigscience/license>

75. Downstream → Usage Policy → Usage Policy Enforcement

- Score: 0
- Justification: The model license states “To the maximum extent permitted by law, Licensors reserves the right to restrict (remotely or otherwise) usage of the Model in violation of this License, update the Model through electronic means, or modify the Output of the Model based on updates,” but this is insufficient to satisfy this indicator.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

76. Downstream → Usage Policy → Justification for Enforcement Action

- Score: 0
- Justification: No information found related to whether users receive a justification when they are subject to an enforcement action for violating the usage policy.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

77. Downstream → Usage Policy → Usage Policy Violation Appeals Mechanism

- Score: 0
- Justification: No information found related to a mechanism for appealing the developer's decision that the usage policy has been violated.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

78. Downstream → Model Behavior Policy → Permitted, Restricted, and Prohibited Model Behaviors
- Score: 0
 - Justification: No information found related to model behaviors that are permitted, restricted, and prohibited.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
79. Downstream → Model Behavior Policy → Model Behavior Policy Enforcement
- Score: 0
 - Justification: No information found related to the enforcement protocol for the model behavior policy.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
80. Downstream → Model Behavior Policy → Interoperability of Usage and Model Behavior Policies
- Score: 0
 - Justification: No information found about how the usage policy and the model behavior policy interoperate.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
81. Downstream → User Interface → User Interaction with AI System
- Score: 1
 - Justification: BLOOMZ has no user-facing interface.
 - Source:
<http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>
82. Downstream → User Interface → Usage Disclaimers
- Score: 1
 - Justification: BLOOMZ has no user-facing interface.
 - Source:
<http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

83. Downstream → User Data Protection → User Data Protection Policy
- Score: 1
 - Justification: HuggingFace’s privacy policy is broad and includes provisions for storing and accessing user data; e.g. “Personal Information collected by the Services may be stored and processed in the United States or any other country in which the Company or its affiliates, subsidiaries or agents maintain facilities.” and “We may share your information with Third-Party Service Providers, and when we do, we ensure that they access your information in compliance with applicable data protection laws.”
 - Source: <https://web.archive.org/web/20230914204433/https://huggingface.co/privacy>
84. Downstream → User Data Protection → Permitted and Prohibited Use of User Data
- Score: 1
 - Justification: Section 2 of privacy policy outlines permitted uses of user data, section 3 outlines a high-level prohibited use “The Company will not sell, rent or lease your Personal Information except as provided for by this Policy.”
 - Source: <https://web.archive.org/web/20230914204433/https://huggingface.co/privacy>
85. Downstream → User Data Protection → Usage Data Access Protocol
- Score: 0
 - Justification: No information found related to a protocol for granting external entities access to usage data.
 - Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.
86. Downstream → Model Updates → Versioning Protocol
- Score: 1
 - Justification: Hugging Face openly released the complete model weights to any developer who accepts their license, giving them access to a precise version of the model.
 - Source: <http://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

87. Downstream → Model Updates → Change Log

- Score: 1
- Justification: Hugging Face released openly model weights to any developer who accepts their license. To BLOOMZ model, it would need to introduce a new version of the model weights; based on past practice (as BLOOMZ has not been updated) they would do so alongside accompanying documentation, which would serve as the de facto changelog. When BLOOM-Z was launched, Hugging Face included a detailed paper about how it was trained and fine-tuned.
- Source:
<https://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

88. Downstream → Model Updates → Deprecation Policy

- Score: 1
- Justification: Hugging Face released openly model weights to any developer who accepts their license, so there is no risk of deprecation.
- Source:
<https://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

89. Downstream → Feedback → Feedback Mechanism

- Score: 1
- Justification: Hugging Face's BLOOMZ discussions page allows users to provide feedback.
- Source:
<https://web.archive.org/web/20230327132826/https://huggingface.co/bigscience/bloomz/discussions>

90. Downstream → Feedback → Feedback Summary

- Score: 0
- Justification: No information found related to any summary of user feedback.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

91. Downstream → Feedback → Government Inquiries

- Score: 0
- Justification: No information found in connection with a summary of government inquiries related to the model.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

92. Downstream → Impact → Monitoring Mechanism

- Score: 0
- Justification: No information found related to a monitoring mechanism for tracking model use.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

93. Downstream → Impact → Downstream Applications

- Score: 1
- Justification: Hugging Face's tab outlining spaces using BLOOMZ is a sufficient proxy for downstream applications to satisfy this indicator.
- Source:
<https://web.archive.org/web/20230321122030/https://huggingface.co/bigscience/bloomz>

94. Downstream → Impact → Affected Market Sectors

- Score: 0
- Justification: No information found related to the fraction of applications corresponding to each market sector.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

95. Downstream → Impact → Affected Individuals

- Score: 0
- Justification: No information found related to the number of individuals affected by the model.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

96. Downstream → Impact → Usage Reports

- Score: 0
- Justification: No information found related to usage statistics describing the impact of the model on users.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

97. Downstream → Impact → Geographic Statistics

- Score: 0
- Justification: No information found regarding statistics of model usage across geographies.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

98. Downstream → Impact → Redress Mechanism

- Score: 0
- Justification: No information found regarding any mechanism to provide redress to users for harm caused by the model.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.

99. Downstream → Documentation for Deployers → Centralized Documentation for Downstream Use

- Score: 1
- Justification: Github repository and Hugging Face page constitute centralized documentation for downstream use.
- Source:
<https://web.archive.org/web/20230914203232/https://github.com/bigscience-workshop/xmtf> and
<https://web.archive.org/web/20230910205718/https://huggingface.co/bigscience/bloomz>

100. Downstream → Documentation for Deployers → Documentation for Responsible Downstream Use

- Score: 0
- Justification: No documentation for responsible downstream use found.
- Source: No source is provided because the search protocol did not produce a source containing sufficient information to award this point.