AI Alliance

Feedback on the Draft Report by Joint California Policy Working Group on AI Frontier Models

1. The structure of the Draft Report includes sections about Context, Transparency and Third-Party Risk Assessment, Adverse Event Reporting, and Scoping. At a high level, what might you find valuable? What types of questions are you most interested in, and how might you use the report in your work?

Two topics for attention in the report:

"Need for regulations": Section 1.3 on "Foundations" could be improved by explaining the need for additional AI regulations. In many areas, we can apply existing laws to new areas rather than creating new laws. The existing AI governance landscape is already complex and fragmented, with guidelines coming from various regulatory agencies and/or individual commercial technology vendors, at varying levels of depth and breadth. It's counterproductive to unduly add to this confusion and complexity.

"Open vs. Closed Models": We recommend the report point to open source AI development explicitly as a viable option to address broader governance and societal concerns. While discussion in the technical community with respect to the definition of openness of AI models[1] remains ongoing, there is no doubt that models with open weights are competitive in performance when compared to closed models.[2] The EU's AI Act recognizes this fact by providing exemptions to open source models. The current report addresses open source in the narrow context of transparency in model weights discussion. This is neglecting many other benefits of open source AI.

2. From your perspective and experience, what key factors do you see affecting California's path forward in AI governance? Please feel free to provide specific feedback referring to the sections of the draft report.

These comments relate to discussion on "Downstream Impact" in Section 3.1 of the report. The current discussion focuses on transparency as the theme for the section, whereas the biggest unknown is the actual risk implied by downstream use. In addition to the foundation model developers, the ecosystem of stakeholders to deploy AI systems includes business leaders, application developers, deployers, and users. A simple technical task such as summarization can have different risks depending on whether it is used for summarizing the local restaurant menu vs. summarizing a medical patient's symptoms. Thus, it is crucial to consider the full ecosystem and all who have a role to play in mitigating risk. This would avoid a situation in which model developers are required to micromanage the downstream uses of

[1] M. White et al., "The Model Openness Framework: Promoting Completeness and Openness for Reproducibility, Transparency, and Usability in Artificial Intelligence", https://arxiv.org/abs/2403.13784
[2] https://artificialanalysis.ai/leaderboards/models

models by deployers – an approach that is at odds with fundamental principles of open source and which would stifle innovation – and would allow each player in the ecosystem to focus on those risks that it is best placed to understand, address, and mitigate.

From our perspective, it is essential that California supports open innovation in AI by steering California's AI governance toward supporting open innovation through:

- Encouraging Open Collaboration: California's robust technological ecosystem can lead the nation by fostering open-source initiatives and research collaborations that democratize AI development. Policies that incentivize open access to model weights, research data, and evaluation methods can catalyze innovation and broaden participation.

- Adaptive Policy Frameworks: Early design choices have long-lasting impacts. California's governance should adopt flexible, adaptive policies that encourage open research and allow the state to respond swiftly as both technological capabilities and societal needs evolve.

3. Numerous frontier AI governance-focused groups have been working on frameworks, guidance, and reports aiming to leverage scientific research. For what topics or issues are you observing challenges in reaching scientific consensus? Do you have recommendations to bridge gaps?

Here are five examples of open source domain specific foundation models promoted by the AI Alliance:

- **BigCode** is an open scientific collaboration[3] working on the responsible development and use of large language models for code (Code LLMs).

- **SemiKong 1.0** is the first industry-specific LLM in the semiconductor domain[4] and is capable of understanding etching problems at an expert level.

- **Foundation Model for Materials (FM4M)** is a suite of models[5] pre-trained on billions of multimodal molecular data built on SMILES, SELFIES, and molecular graphs. Typical use cases are property prediction, structure generation, etc.

- **Biomedical Foundation Models (BMFM)** leverage multi-modal data of different types, including drug-like small molecules and proteins (covering a total of more than a billion

[3] https://www.bigcode-project.org/docs/about/mission/
[4] https://github.com/aitomatic/semikong/blob/main/SemiKong_OSAI4MU_AAAI_25.pdf
[5] https://github.com/IBM/materials/

molecules), as well as single-cell RNA sequence and other biomedical data[6].

- **Prithvi-IBM-NASA Foundation Models for Earth:** IBM and NASA have created a family of AI foundation models[7] for Earth called Prithvi.

Through a combination of public-private partnerships and building trust among commercial and academic partners for common good, we have been able to demonstrate significant progress in these scientific areas.

4. What could be done individually or collectively to leverage frontier AI for Californians' benefit?

We risk limiting the widespread realization of this technology's benefits if we do not actively encourage and enable open innovation. For example, this could include identifying and alleviating the obstacles in-state developers, deployers and end-users of AI may confront. California should generally encourage openness in the development of AI to enhance competition, expand user choice and increase product diversity, and stimulate innovation throughout the AI value chain. Startups play a critical role in creating and strengthening the emerging open innovation AI ecosystem, which in turn supports economic development. AI development should include diverse perspectives throughout the AI software and hardware development lifecycles, including those of policy makers, regulators, users, and all other stakeholders in the AI ecosystem; open innovation has a unique role to play in enabling this feedback.

5. Please feel free to list any published resources you would like to share with the Joint California Policy Working Group on AI Frontier Models.

To further support open innovation, we recommend that the Joint California Policy Working Group consider the following resources:

- We are encouraged by the U.S. Federal Trade Commission (FTC)'s recent statement[8], which concludes that "open-weights models have the potential to drive innovation, reduce costs, increase consumer choice, and generally benefit the public – as has been seen with open-source software."

- The U.S. National Telecommunications and Information Administration's report[9] and the AI Alliance's associated response to the dual-use foundation models RFI, which argues for the benefits of open-source AI models and shared research frameworks.

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[6] https://research.ibm.com/projects/biomedical-foundation-models
[7] https://huggingface.co/ibm-nasa-geospatial
[8] Federal Trade Commission (FTC),On Open-Weights Foundation Model. 10 July 2024 https://www.ftc.gov/policy/advocacy-research/tech-at-ftc/2024/07/open-weights-foundation-models.
[9] NTIA Report. "Dual-Use Foundation Models with Widely Available Model Weights", July 2024: https://www.ntia.doc.gov/sites/default/files/publications/ntia-ai-open-model-report.pdf.