OPEN SOURCE AI DEFINITION

Online public townhall

June 14, 2024

last updated: June 11, 2024 (MJ)
Community agreements

● **One Mic, One Speaker** -- Please allow one person to speak at a time.
● **Take Space, Make Space** -- If you tend to talk more, we invite you to make space for others to share. If you tend not to share, we invite you to speak up.
● **Kindness** -- This work is hard, but we don’t have to be. Gentleness and curiosity help. Those who use insults or hate speech will need to leave the meeting.
● **Forward Motion** -- We advance by focusing on what is possible in the moment and doing it. Obstacles are marked for later discussion, not used to stop the process. If we hit a boulder, we note it on the map and keep walking. We’ll come back and unearth it later on.
● **Solution-Seeking** -- This work is so complex that focusing on what won’t work will stop it. Suggesting new ideas, options, and proposals is vulnerable, but crucial. All of us are needed to make this work.
● **Anything else?**
OSI’s objective for 2024

Open Source AI Definition
Open Source AI Definition

Current Version

OSAID v.0.0.8
Open Source AI Definition

Key Feedback

OSAID v.0.0.8
Requiring only **data information**... instead of **training datasets** is the greatest point of debate now.
Open Source AI  
Definition  
Other Components  
v.0.0.8  

### Preamble

**Why we need Open Source Artificial Intelligence (AI)**

Open Source AI has demonstrated that several benefits occur in companies when they move from closed-source, locked-down and proprietary software. These benefits may be the result of using software that adheres to the Open Source Definition. The benefits may be summarized as follows:

- **Increased flexibility**
- **Increased collaboration**
- **Lower costs**
- **Enhanced security**

Everyone needs these benefits. If we used several systems on a single server or desktop, system failures can quickly spread and increase.

### What is Open Source AI

An Open Source AI is one that everyone will use under certain terms that give the freedom to:

- **Run** the system or any part of it freely without charge for any purpose.
- **Run** the system or any part of it for any purpose without restriction.
- **Modify** the system or any part of it without any obligation to do so.
- **Distribute** the system or any part of it freely without obligation to do so.

### Potential form to make modifications to machine-learning systems

The same techniques of making modifications for a machine-learning system are at your disposal:

- **Learn more about the software.** This involves analyzing the code and understanding how the system works.
- **Modify the code.** This involves changing the code to make the modifications you want.
- **Create a new version of the modified code.** This involves taking the original code and making the necessary changes to create a new version.
- **Test the new version.** This involves making sure the new version works as expected.
- **Release the new version.** This involves making the new version available to others.

### Checklist to evaluate machine-learning systems

**Table of default required components**

<table>
<thead>
<tr>
<th>Component</th>
<th>OSI-approved license</th>
<th>Open Source compliant license</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data pre-processing</strong></td>
<td>Available under OSI-approved license</td>
<td>Available under Open Source compliant license</td>
</tr>
<tr>
<td><strong>Code</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Older Components v.0.0.8**

Others have proposed...

- **Removing data pre-processing code** requirement if training data is not required.

- **Requiring a model card** and **data card** to standardize system documentation.
In contrast to the clear “OSI-approved” licenses available for code components, the “OSD compliant” requirement for data information and “OSD conformant” requirement for model parameters have been challenging for reviewers to interpret.
Preferred form to make modifications

**Data information**
Sufficiently **detailed information** about the data used to train the system, so that a skilled person can **recreate** a substantially equivalent system using the **same or similar** data.

**Code**
The source code used to train and run the system.

**Model**
The model parameters (**weights and biases**).
Data Information Explained

- The intention of *Data information* is to allow developers to **recreate** a substantially **equivalent system** using **the same or similar** data.
- Came out of the systems review process, with votes by volunteers.
Zooming in on the issues with datasets

- The Pile taken down after an alleged copyright infringement in the US. But legal in Japan. Maybe legal in EU
- DOLMA, initially had a restrictive license. Later switched to a permissive one. Suffers from the same legal uncertainties of the Pile, however the Allen Institute has not been sued, yet.
- Training techniques that preserve privacy like federated learning don’t create datasets.
Alternative proposals

- Use synthetic data: Experimental, unproven technology, limited to corner cases
- All their components must be “open source”: This integralism ignores that even the GNU project accepts system library exceptions and other compromises.
Open Source AI Definition
System Validation
OSAID v.0.0.8
We’re interested in reviewing about 10 AI systems self-described as open as part of this definition validation phase. Those marked (*) have were reviewed in previous phases.

Validation Reviewers

1. Arctic
   1. Jesús M. Gonzalez-Barahona
      Universidad Rey Juan Carlos

2. BLOOM*
   1. Danish Contractor
      BLOOM Model Gov. Work Group
   2. Jaan Li
      University of Tartu, One Fact Foundation

3. Falcon
   1. Casey Valk
      Nutanix
   2. Jean-Pierre Lorre
      LINAGORA, OpenLLM-France

4. Grok
   1. Victor Lu
      independent database consultant
   2. Karsten Wade
      Open Community Architects

5. Llama 2*
   1. Davide Testuggine
      Meta
   2. Jonathan Torres
      Meta
   3. Stefano Zacchioli
      Polytechnic Institute of Paris
   4. Victor Lu
      independent database consultant

9. LLM360
   5. [Team member TBD]
      LLM360

We will need an independent reviewer for LLM360

8. Mistral
   1. Mark Collier
      OpenInfra Foundation
   2. Jean-Pierre Lorre
      LINAGORA, OpenLLM-France
   3. Cailean Osborne
      University of Oxford, Linux Foundation

7. OLMo
   4. Amanda Casari
      Google
   5. Abdoulaye Diack
      Google

8. OpenCV*
   1. Rasim Sen
      Oasis Software Technology Ltd.

9. Phi-2
   6. Seo-Young Isabelle
      Hwang Samsung

10. Pythia*
    1. Seo-Young Isabelle
       Hwang Samsung
    2. Stella Biderman
       EleutherAI
    3. Hailey Schoelkopf
       EleutherAI
    4. Aviya Skowron
       EleutherAI

11. T5
    5. Jaan Li
       University of Tartu, One Fact Foundation

Viking

6. Merlijn Sebrechts
   Ghent University
Validation Challenges

It is hard for volunteer reviewers to find required documents independently.
Validation Challenges

This meant a lot of the review analysis has been incomplete.
Validation Solutions

Having the help of system creators to locate documents has been crucial.

Thank you, Arctic!
## Validation Expectations

Given current system information, our expected review results are as follows. If we are missing information, please let us know.

<table>
<thead>
<tr>
<th>AI System</th>
<th>Meets OSAID requirements?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of system with link to its review sheet Based on OSAID v. 0.0.8 and/or v.0.0.6</td>
<td>Summary explanation of status (as of 6/11/24)</td>
<td></td>
</tr>
<tr>
<td>Arctic</td>
<td>Expect Yes</td>
<td>Verbal confirmation from Snowflake, which is adding legal documents to review sheet (6/3/24)</td>
</tr>
<tr>
<td>BLOOM</td>
<td>Confirmed No</td>
<td>Usage restrictions in RAIL license</td>
</tr>
<tr>
<td>Falcon</td>
<td>Expect No</td>
<td>Documents on training methodologies and techniques and training, validation and testing are missing</td>
</tr>
<tr>
<td>Grok</td>
<td>Expect No</td>
<td>Very little public information on system</td>
</tr>
<tr>
<td>Llama 2</td>
<td>Confirmed No</td>
<td>Data pre-processing + training, validation and testing code are not available</td>
</tr>
<tr>
<td>LLM360</td>
<td>Expect Yes</td>
<td>Self-certified as compliant on the forum, awaiting addition of reviewable documents to their sheet</td>
</tr>
<tr>
<td>Mistral</td>
<td>Confirmed No</td>
<td>Some data information and code components missing, no training code available</td>
</tr>
<tr>
<td>OLMo</td>
<td>Expect Yes</td>
<td>Supporting libraries and tools unclear, but all other legal documentation is present</td>
</tr>
<tr>
<td>OpenCV</td>
<td>Unclear</td>
<td>Model requirement unclear because OpenCV does not store, but instead supports external deep learning frameworks</td>
</tr>
<tr>
<td>Phi-2</td>
<td>Unclear</td>
<td>Data information, code, and model information missing</td>
</tr>
<tr>
<td>Pythia</td>
<td>Confirmed Yes</td>
<td>Only non-alignment was absence of labeling documentation, which was not created. v 0.0.8 adds &quot;if used&quot; to requirement, resolving this</td>
</tr>
<tr>
<td>T5</td>
<td>Expect Yes</td>
<td>Only possible restriction is in supporting libraries and tools because gcloud command requires special hardware. Hardware requirements are out of scope for the OSAID, so this is likely not a recognized restriction.</td>
</tr>
</tbody>
</table>
Open Source AI Definition

What’s Next?

June - October 2024

- Complete validation phase
- Resolve comments, release v. 0.0.9 after validation
- Cut the release candidate with sufficient endorsement
1. Reach out to AI system creators to fill in the blanks on their own systems by pointing us to correct documentation

2. Invite volunteers to also help us fill in these blanks
## 2024 Timeline

### System testing work stream
- Stakeholder consultation work stream
- Release schedule

### February
- Call For Volunteers + Activity Feedback and Revision
- Bi-Weekly Virtual Public Townhalls
- Draft 0.0.5

### March
- Virtual System Review Meetings Begin
- Bi-Weekly Virtual Public Townhalls
- Draft 0.0.6

### April
- Virtual System Review Meetings Continue
- Bi-Weekly Virtual Public Townhalls
- Draft 0.0.7 and 8

### May
- Virtual System Review Meetings END
- Townhalls +
- PyCon Workshop (≈ May 17th, Pittsburgh)
- Draft 0.0.9
- Townhalls +
- Virtual Launch Event (date TBD)

### June ...
- Feedback Informs Content of OSI In-Person Stakeholder Meeting
- Monthly Virtual Meetings

### ... October
- Release stable version
- Stable Version

### Release Schedule
- Draft 0.0.5
- Draft 0.0.6
- Draft 0.0.7 and 8
- Draft 0.0.9
- RC1
- Stable Version
<table>
<thead>
<tr>
<th>Region</th>
<th>Country</th>
<th>City</th>
<th>Conference</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>United States</td>
<td>Pittsburgh</td>
<td>✓ PyCon US</td>
<td>May 17</td>
</tr>
<tr>
<td>Europe</td>
<td>France</td>
<td>Paris</td>
<td>✓ OW2</td>
<td>June 11 - 12</td>
</tr>
<tr>
<td>North America</td>
<td>United States</td>
<td>New York</td>
<td>OSPOs for Good</td>
<td>July 9 - 11</td>
</tr>
<tr>
<td>Africa</td>
<td>Virtual</td>
<td>Virtual</td>
<td>Sustain Africa</td>
<td>July</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>China</td>
<td>Hong Kong</td>
<td>AI_dev</td>
<td>August 23</td>
</tr>
<tr>
<td>Latin America</td>
<td>Argentina</td>
<td>Buenos Aires</td>
<td>Nerdearl</td>
<td>September</td>
</tr>
<tr>
<td>Europe</td>
<td>TBD</td>
<td>TBD</td>
<td>(data governance)</td>
<td>October</td>
</tr>
<tr>
<td>North America</td>
<td>United States</td>
<td>Raleigh</td>
<td>All Things Open</td>
<td>Oct 27 - 29</td>
</tr>
</tbody>
</table>
Participation Options

- **Public forum**: [discuss.opensource.org](http://discuss.opensource.org)
- **Become an OSI member**
  - Free or or full
  - SSO with other OSI websites
- **Biweekly virtual townhalls**… like this one!
- **Volunteer** to help with validation (email or DM Mer Joyce)
Q & A
Thank you

We realize this is difficult work and we appreciate your help and openness in improving the definition.