OPEN SOURCE AI DEFINITION

Online public townhall

March 8, 2024

last updated: March 5, 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?**
The objective for 2024
Open Source AI Definition
version 1.0
Definition of AI system

Preamble

Why we need Open Source Artificial Intelligence (AI)

Open Source has demonstrated that massive benefits accrue to everyone when you remove the barriers to learning, using, sharing and improving software systems. These benefits are the result of using licenses that adhere to the Open Source Definition. The benefits can be defined as autonomy, transparency, and collaborative improvement.

Everyone needs these benefits in AI. We need essential freedoms to enable users to build and deploy AI systems that are viable and transparent.

How we can get the benefits of Open Source AI

A preprocessor for a system is the Open Source software so that developments must have unobstructed access to the “preferred form to make modifications to the work”.

For AI systems, the preferred form to make modifications to the work depends on the specific kind of AI.

Out of scope issues

The Open Source AI Definition doesn’t say how to develop and deploy an AI system that is ethically or responsibly, although it doesn’t prevent it. What makes an AI system ethical or responsible is a separate discussion.

What is Open Source AI

To be Open Source, an AI system needs to make its components available under licenses that individually grant the freedoms to:

- Study how the system works and inspect its components.
- Use the system for any purpose and without having to ask for permission.
- Modify the system to change its recommendations, predictions or decisions to suit your needs.
- Share the system with or without modifications, for any purpose.

Legal checklist

Checklist to evaluate licenses

To Do

Leave comments for this text
What is Open Source AI

To be Open Source, an AI system needs to be available under legal terms that grant the freedoms to:

- **Use** the system for any purpose and without having to ask for permission.
- **Study** how the system works and inspect its components.
- **Modify** the system to change its recommendations, predictions or decisions to adapt to your needs.
- **Share** the system with or without modifications, for any purpose.
Working group recommendations
Systems review plan

Planned phases and where we are now:

1. ✔ Analyze a sample of “AI systems” to identify precisely the required components for study, use modification, and sharing of the entire system
2. For each component of these systems, check their availability and the conditions for use/distribution (the legal documents)
3. Generalize the findings and complete a checklist for OSI license committee to evaluate legal documents for AI systems (OSAID “feature complete”)
4. Get endorsements from major stakeholders (RC1)
5. Keep refining the OSAID, as it gains support from more stakeholders (v. 1.0)
Systems

Selected to have diversity of approaches:

1. **Pythia**: open science project, with a permissive license
2. **BLOOM**: open science project, with lots of details released but shared with a restrictive license
3. **Llama 2**: commercial project, accompanied by limited amount of science and with a restrictive license
4. **OpenCV**: open source project, with ML components outside of the generative AI space
Members

**Llama 2**
1. **Bastien Guerry**
   DINUM, French public administration
2. **Ezequiel Lanza**
   Intel
3. **Roman Shaposhnik**
   Apache Software Foundation
4. **Davide Testuggine**
   Meta
5. **Jonathan Torres**
   Meta
6. **Stefano Zacchiroli**
   Polytechnic Institute of Paris

**BLOOM**
1. **George C. G. Barbosa**
   Fundação Oswaldo Cruz
2. **Daniel Brumund**
   GIZ FAIR Forward - AI for all
3. **Danish Contractor**
   BLOOM Model Gov. WG
4. **Abdoulaye Diack**
   Google
5. **Deshni Govender**
   GIZ FAIR Forward - AI for all
6. **Jaan Li**
   University of Tartu, Phare Health
7. **Jean-Pierre Lorre**
   LINAGORA, OpenLLM-France
8. **Ofentse Phuti**
   WiMLDS Gaborone
9. **Caleb Fianku Quao**
   Kwame Nkrumah University of Science and Technology, Kumasi

**Pythia**
1. **Seo-Young Isabelle Hwang**
   Samsung
2. **Cailean Osborne**
   University of Oxford, Linux Foundation
3. **Stella Biderman**
   EleutherAI
4. **Justin Colannino**
   Microsoft
5. **Aviya Skowron**
   EleutherAI

**OpenCV**
1. **Rahmat Akintola**
   Cubeseed Africa
2. **Ignatius Ezeani**
   Lancaster University
3. **Kevin Harerimana**
   CMU Africa
4. **Satya Mallick**
   OpenCV
5. **David Manset**
   ITU
6. **Phil Nelson**
   OpenCV
7. **Tlamelo Makati**
   WiMLDS Gaborone, Technological University Dublin
8. **Minyechil Alehegn Tefera**
   Mizan Tepi University
9. **Akosua Twumasi**
   Ghana Health Service
# Voting

<table>
<thead>
<tr>
<th>Code</th>
<th>Required to Use?</th>
<th>Required to Study?</th>
<th>Required to Modify?</th>
<th>Required to Share?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data preprocessing code</td>
<td>SZ</td>
<td>SZ EL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training code</td>
<td>SZ</td>
<td>SZ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test code</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code used to perform inference for benchmark tests</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Validation code</td>
<td></td>
<td>SZ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inference code</td>
<td>SM EL DT SM JT SZ</td>
<td>SZ</td>
<td>SZ</td>
<td>SZ</td>
</tr>
<tr>
<td>Evaluation code</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other libraries or code artifacts that are part of the system, such as tokenizers and hyperparameter search code, if used.</td>
<td>BG,EL, SM, SZ</td>
<td>SZ</td>
<td>SZ</td>
<td>SZ</td>
</tr>
</tbody>
</table>

source: Llama 2 working group (Feb. 9, 2024)
# Vote compilation

As of 2/21/24 at 9:00 pm UTC

<table>
<thead>
<tr>
<th>Components</th>
<th>Recommendation</th>
<th>Rationale</th>
<th>Total</th>
<th>Votes (MOF update)</th>
<th>Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>of an AI system</td>
<td>Should it be required?</td>
<td>Why should it be required?</td>
<td>All Votes</td>
<td>Study</td>
<td>Use</td>
</tr>
<tr>
<td>Code</td>
<td>last update: 2/21/24 (MJ)</td>
<td>last update: 2/21/24 (MJ)</td>
<td>last update: 2/21/24 (MJ)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data preprocessing code</td>
<td>Lean yes</td>
<td>Likely required to study and modify</td>
<td>13</td>
<td>11</td>
<td>-6</td>
</tr>
<tr>
<td>Training, validation and testing code</td>
<td>Yes</td>
<td>Likely required to study and modify</td>
<td>21</td>
<td>17</td>
<td>-4</td>
</tr>
<tr>
<td>Inference code</td>
<td>Yes</td>
<td>Likely required to use, possibly to study and modify</td>
<td>23</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Evaluation code</td>
<td>Lean no</td>
<td>Likely not required to study</td>
<td>3</td>
<td>5</td>
<td>-1</td>
</tr>
</tbody>
</table>

| Data                        |                   | Requirement to study offset by lack of necessity for use | 8     | 21           | -18              | 8                  | -3                  |
| Datasets                    | Maybe            | | | | | | |
| Training datasets           | Lean no          | Possibly required for study | 4     | 6            | -4               | 3                  | -1                  |
| Testing datasets            | Lean no          | Possibly required for study | 2     | 6            | -5               | 2                  | -1                  |
| Validation datasets         | No               | Likely not required for study | 0     | 4            | -5               | 2                  | -1                  |
| Benchmarking datasets       | Lean no          | Possibly required for study | 2     | 5            | -4               | 1                  | 0                  |

| Data card                   | No               | Likely not required for study | -1    | 4            | -3               | -1                 | -1                 |
| Evaluation Data             | Lean no          | Likely not required for study | 3     | 2            | 0                | 1                  | 0                  |
| Evaluation Results          | Lean no          | Likely not required for study | 4     | 3            | 0                | 1                  | 0                  |
| All other data documentation| Lean no          | Possibly required for study | 4     | 6            | -3               | 2                  | -1                 |

As of 2/21/24 μ = 9.5
Recommendations summary 2/26/24

- **Required**
  - Training, validation & testing code
  - Inference code
  - Model architecture
  - Model parameters
  - Supporting libraries & tools

- **Likely Required**
  - Data preprocessing code

- **Maybe Required**
  - Datasets
  - Usage documentation
  - Research paper

- **Likely Not Required**
  - Model card
  - Evaluation code

- **Not Required**
  - Data card
  - Evaluation data
  - Evaluation results
  - Model metadata
  - Sample model outputs
  - Technical report

[go to results spreadsheet →]
Definition v. 0.0.6

- **Required components**
  - Data preprocessing code
  - Training, validation & testing code
  - Inference code
  - Model architecture
  - Model parameters
  - Supporting libraries & tools

- **Optional** (appreciated, not required)
  - Datasets
  - Usage documentation
  - Research paper
  - Model card
  - Evaluation code
  - Data card
  - Evaluation data
  - Evaluation results
  - Model metadata
  - Sample model outputs
  - Technical report
A sufficiently detailed information on how the system was trained, including the training methodologies and techniques, the training data sets used, information about the provenance of those data sets, their scope and characteristics; how the data was obtained and selected, the labeling procedures and data cleaning methodologies.

The code used for pre-processing data, the code used for training, validation and testing.

The model parameters, including weights. Where applicable, these should include checkpoints from key intermediate stages of training as well as the final optimizer state.

The supporting libraries like tokenizers and hyperparameters search code (if used), the inference code, and model architecture.
Generalized text in v. 0.0.6

Precondition to exercise these freedoms is to have access to the preferred form to make modifications to the system.

Release date: Mar 11, 2024
Next steps

- Version 0.0.6 release on Monday
- Start step 2: For each system, check the availability of **required components** and analyze their conditions for use/distribution (the legal documents)
What phase 2 will look like

For each AI system, build a table like:

<table>
<thead>
<tr>
<th>Required component</th>
<th>Link to resource</th>
<th>Legal framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data pre-processing code</td>
<td>URL</td>
<td>OSI-approved license</td>
</tr>
<tr>
<td>Training, validation and testing code</td>
<td>URL</td>
<td>...</td>
</tr>
<tr>
<td>Inference code</td>
<td>URL</td>
<td>...</td>
</tr>
<tr>
<td>Supporting libraries and tools</td>
<td>URL</td>
<td>...</td>
</tr>
<tr>
<td>Model architecture</td>
<td>URL</td>
<td>...</td>
</tr>
<tr>
<td>Model parameters</td>
<td>URL</td>
<td>???</td>
</tr>
</tbody>
</table>
2024 timeline

**Track 1: System testing work stream**

**Track 2: Stakeholder consultation work stream**

**Track 3: Releases**

**February**
- Call For Volunteers + Activity Feedback and Revision
- Bi-Weekly Virtual Public Townhalls

**March**
- Virtual System Review Meetings Begin
- Bi-Weekly Virtual Public Townhalls

**April**
- Virtual System Review Meetings Continue
- Bi-Weekly Virtual Public Townhalls

**May**
- Virtual System Review Meetings END
- Bi-Weekly Virtual Public Townhalls

**June ...**
- Feedback Informs Content of OSI In-Person Stakeholder Meeting
- Townhall + OSI In-Person Stakeholder Meeting (date + place TBD)

**... October**
- Monthly Virtual Meetings
- Release version 1.0

<table>
<thead>
<tr>
<th>Draft</th>
<th>Draft</th>
<th>Draft</th>
<th>Draft</th>
<th>RC1</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0.5</td>
<td>0.0.6</td>
<td>0.0.7</td>
<td>0.0.8</td>
<td>v.1.0</td>
</tr>
</tbody>
</table>
Criteria for RC1 and v. 1.0

RC1
- Expected outcome of in-person meeting end May/early June!
- The draft is completed in all its parts
- The draft is supported by at least 2 representatives for each of the 6 stakeholder groups

version 1
- Expected outcome of in-person and online meetings through the summer/early autumn
- The draft is endorsed by at least 5 reps for each of the stakeholder groups
- Announced in late October
<table>
<thead>
<tr>
<th>System Creator</th>
<th>License Creator</th>
<th>Regulator</th>
<th>Licensee</th>
<th>End User</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Makes AI system and/or component that will be studied, used, modified, or shared through an open source license (e.g., ML researcher in academia or industry)</td>
<td>Writes or edits the open source license to be applied to the AI system or component; includes compliance (e.g., IP lawyer)</td>
<td>Writes or edits rules governing licenses and systems (e.g. government policy-maker)</td>
<td>Seeks to study, use modify, or share an open source AI system (e.g. AI engineer, health researcher, education researcher)</td>
<td>Consumes a system output, but does not seek to study, use, modify, or share the system (e.g., student using a chatbot to write a report, artist creating an image)</td>
<td>Affected upstream or downstream by a system output without interacting with it intentionally; includes advocates for this group (e.g. people with loan denied, or content creators)</td>
</tr>
<tr>
<td>✅</td>
<td>✅</td>
<td>⚠️</td>
<td>✅</td>
<td>⚠️</td>
<td>⚠️</td>
</tr>
<tr>
<td>Enough to start</td>
<td>Enough to start</td>
<td>Leads to US, EU, Singapore, no commitment yet</td>
<td>Enough to start</td>
<td>Which org is squarely in this space?</td>
<td>ACLU, Algorithmic Justice League</td>
</tr>
</tbody>
</table>
It doesn’t end with v. 1.0

We’ll need to define rules for maintenance and review of the Definition
Join the conversation

- discuss.opensource.org
- Public forum
- Join as OSI member
  - Free or full
  - SSO with other OSI websites
Thank you

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