

Technical Advisory Council Meeting

June 18, 2020

 THE **LINUX** FOUNDATION

 **LF AI**

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Recording of Calls

Reminder: TAC calls are recorded and available for viewing on the [TAC Wiki](#).

Reminder: LF AI Useful Links

Web site: lfai.foundation
Wiki: wiki.lfai.foundation
GitHub: github.com/lfai
Landscape: landscape.lfai.foundation or l.lfai.foundation
Mail Lists: <https://lists.lfai.foundation>

LF AI Logos: <https://github.com/lfai/artwork/tree/master/lfai>

LF AI Presentation Template:

https://drive.google.com/file/d/1eiDNJvXCqSZHT4Zk_-czASlz2GTBRZk2/view?usp=sharing

Events Page on LF AI Website: <https://lfai.foundation/events/>

Events Calendar on LF AI Wiki (subscribe available):

<https://wiki.lfai.foundation/pages/viewpage.action?pageId=12091544>

Event Wiki Pages: <https://wiki.lfai.foundation/display/DL/LF+AI+Foundation+Events>

Agenda

- › Roll Call
- › Approval of Minutes
- › IBM Trusted AI Projects - Incubation Proposal + TAC Vote
- › Montreal AI Ethics Institute Presentation
- › LF AI General Updates
- › Upcoming TAC Meetings
- › Open Discussion

TAC Voting Members

Member	TAC Contact	TAC Email
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Angel Project	Bruce Tao	brucetao@tencent.com
ONNX Project	*Jim Spohrer	spohrer@us.ibm.com

* TAC Chairperson

Approval of Minutes

- › Draft minutes from the June 4th meeting of the TAC were previously distributed to the TAC members
- › **Proposed Resolution:**
 - › That the minutes of the June 4th meeting of the Technical Advisory Council of the LF AI Foundation are hereby approved

Project Contribution Proposal: IBM Trusted AI Projects - LF AI Incubation Project

Project Contribution Proposal Review & Discussion: IBM Trusted AI Projects

IBM Trusted AI Projects are inclusive of three open sourced state of the art, trusted AI toolkits - AI Fairness 360, Adversarial Robustness 360, and AI Explainability 360.

- › **Project Level:** Incubation
- › **Presenter:** Animesh Singh, Mathieu Sinn, and Mike Hind
- › **Proposal:**
<https://github.com/animeshsingh/proposing-projects/blob/trusted-ai/proposals/trusted-ai.adoc>
- › **GitHub:**
 - › AIF360: <https://github.com/IBM/AIF360>
 - › ART: <https://github.com/IBM/adversarial-robustness-toolbox>
 - › AIX360: <https://github.com/IBM/AIX360>

Agenda

- › [Proposal](#) (14 min)
- › Q&A (5 min)
- › Vote (1 min)



[Animesh Singh](#)
IBM Open
Technologies
[Trusted AI Committee](#)
(4 minutes)



[Mathieu Sinn](#)
IBM Research – Dublin
[ART: Adversarial Robustness
Toolbox](#)
(4 minutes)



[Mike Hind](#)
IBM Research – Yorktown
[AIF360/AIX360: AI
Fairness/Explainability](#)
(6 minutes)

LFAI Trusted AI Committee

<https://wiki.lfai.foundation/display/DL/Trusted+AI+Committee>

Bring Trust, Transparency and Responsibility into AI

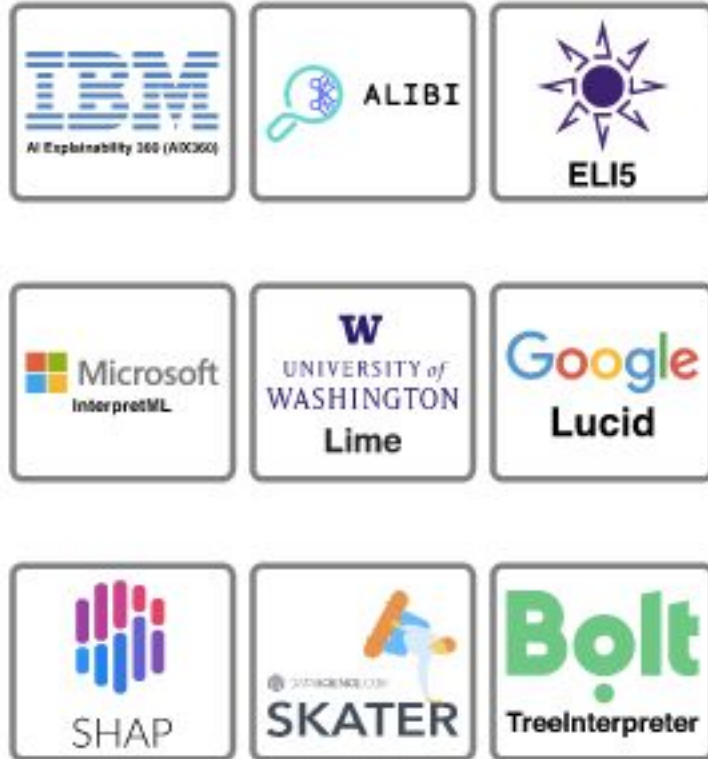
- ✓ Principles Working Group
- ✓ Technical Working Group

Chairs	Region	Company
Animesh Singh	North America	IBM
Souad Ouali	Europe	Orange
Jeff Cao	Asia	Tencent



Trusted & Responsible AI

Explainability



Adversarial



Bias & Fairness



Adversarial Robustness

360 ↳ (ART)

<https://github.com/IBM/adversarial-robustness-toolbox>

ART is a library dedicated to adversarial machine learning. Its purpose is to allow rapid crafting and analysis of **attack, defense and detection methods** for machine learning models. Applicable domains include finance, self driving vehicles etc.

The Adversarial Robustness Toolbox provides an implementation for many state-of-the-art methods for attacking and defending classifiers.

Toolbox: Attacks, defenses, and metrics

- Evasion attacks
- Defense methods
- Detection methods
- Robustness metrics

<https://art-demo.mybluemix.net/>

ART

ADVERSARIAL ROBUSTNESS TOOLBOX (ART)

python™

TRAINING
ALGORITHMS

ATTACKING
ALGORITHMS

DEFENDING
ALGORITHMS



K Keras

PYTORCH

mxnet

AI Fairness 360

↳ (AIF360)

<https://github.com/IBM/AIF360>

AIF360 toolkit is an open-source library to help detect and remove bias in machine learning models. **AIF360 translates algorithmic research from the lab into practice.** Applicable domains include finance, human capital management, healthcare, and education.

The AI Fairness 360 Python package includes a comprehensive set of metrics for datasets and models to test for biases, explanations for these metrics, and algorithms to mitigate bias in datasets and models.

Toolbox

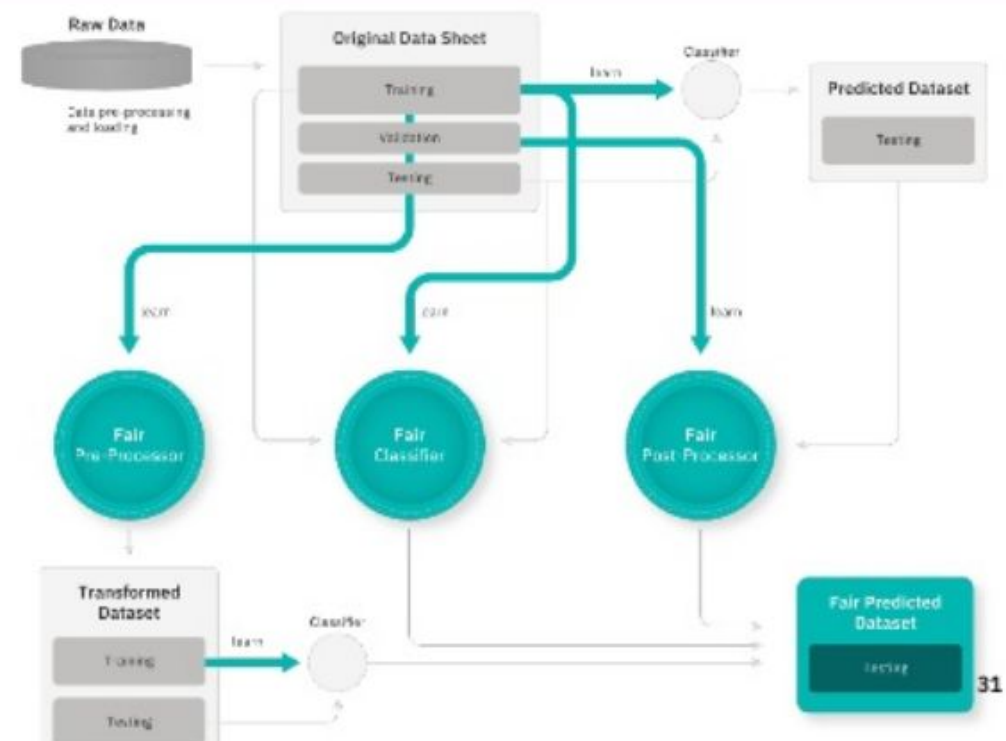
Fairness metrics (70+)

Fairness metric explanations

Bias mitigation algorithms (10+)

<http://aif360.mybluemix.net/>

AIF360



AI Explainability 360 ↳ (AIX360)

<https://github.com/IBM/AIX360>

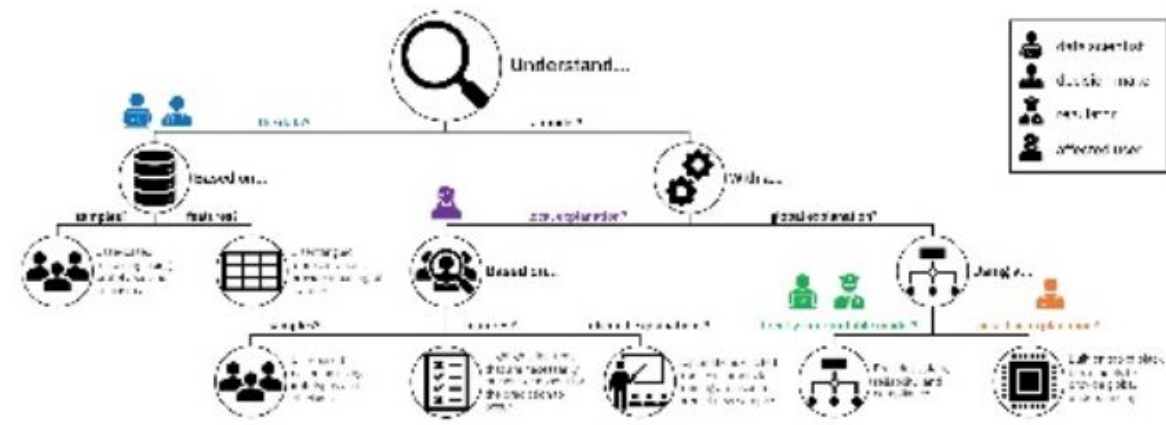
AIX360 toolkit is an open-source library to help explain AI and machine learning models and their predictions. This includes three classes of algorithms: local post-hoc, global post-hoc, and directly interpretable explainers for models that use image, text, and structured/tabular data.

The AI Explainability360 Python package includes a comprehensive set of explainers, both at global and local level.

Toolbox

- Local post-hoc
- Global post-hoc
- Directly interpretable

<http://aix360.mybluemix.net>



TAC Vote on Project Proposal: IBM Trusted AI Projects

Proposed Resolution:

The TAC approves the IBM Trusted AI Projects (AI Fairness 360, Adversarial Robustness 360, and AI Explainability 360) as an Incubation project of the LF AI Foundation

Next Steps

Work with the IBM Trusted AI Projects on an announcement and onboarding

Explore potential integrations between this project and other LF AI projects

Guest Presentation: Montreal AI Ethics Institute

Abhishek Gupta

The logo for MAIEI (The Montreal AI Ethics Institute) is displayed on a black square background. The letters 'MAIEI' are rendered in a white, sans-serif font. The letter 'E' is stylized with a blue-to-white gradient and a slight shadow effect.

The Montreal AI Ethics Institute

*Presentation to The LF AI Foundation at The Linux Foundation
June 18, 2020*

Abhishek Gupta, Founder
abhishek@montrealaiethics.ai



<https://montrealaiethics.ai/>



@mtlaiethics



<https://aiethics.substack.com>

About MAIEI

The logo for MAIEI is displayed on a black square background. The letters 'MAIEI' are in a white, sans-serif font. The letter 'E' is stylized with a blue-to-cyan gradient and a slight shadow effect.

MAIEI

The Montreal AI Ethics Institute (MAIEI) is an international, non-profit research institute dedicated to **defining humanity's place in a world increasingly characterized and driven by algorithms.**

We do this by creating tangible and applied technical and policy research in the ethical, safe, and inclusive development of AI.



About MAIEI

The logo for MAIEI is displayed on a black square background. The letters 'MAIEI' are in white, with the 'E' being a stylized blue character with three horizontal bars.

Our goal is to **build public competence and understanding of the societal impacts of AI** and to equip and empower diverse stakeholders to actively engage in the shaping of technical and policy measures in the development and deployment of AI systems.

We are a **digital-first civil society organization** that brings together a diversity of individuals from different disciplines, areas of expertise, and geographic regions.



Our Approach

We bridge the gap between technical and policy experience with real-world impact

Biased Towards Action

While there are numerous organizations that have been working on sets of principles, frameworks, and other theoretical guidelines, the missing piece that is now starting to surface is the bridging of the gap between the proposed technical and policy measures and operationalizing them. We are firmly biased towards action and our work with partner organizations has not only created positive change but also one that is sustainable and transformative..

Frameworks into Practice

Our team combines deep technical, policy, and design expertise with years of experience working with organizations from across the world in putting these frameworks into practice. Given our global network of interdisciplinary researchers and practitioners coupled with an in-depth and all-encompassing view of the cutting-edge responsible AI landscape, we are uniquely positioned to bring about a quick turnover of research into applied measures.

Responsible AI as the Norm

Organizational change starts with people and people require knowledge that is presented in bite-sized, accessible chunks. Our experience in delivering content that meets these criteria has a proven track record of success. We can leverage our combined expertise to create bespoke experiences that will equip and empower individuals with the necessary skills to confidently lead their organization into a future where responsible AI becomes the norm rather than the exception.



Our Approach

We bridge the gap between technical and policy experience with real-world impact

Empowering Local Champions

We are creating local champions in the form of informed and engaged citizens who are able to take this knowledge of applied AI ethics to their communities and organizations, thus scaling the impact that we have as a single organization. As an example, a former research intern that worked with MAIEI in 2019 is now the Head of AI Ethics Policy for the Joint Artificial Intelligence Center, Department of Defense, US Government.

Truly Inclusive, Global Participation

Our programs are truly inclusive and eliminate barriers for people from all parts of the world, including the Global South, who are typically not able to access similar programs because of financial constraints, visa troubles, family commitments, and so on. By being digital-first, we are able to bring together perspectives that are otherwise inaccessible where the emphasis is oftentimes on heavy credentials and traditional backgrounds.

Open Source and Open Access

Open source and open access models are embedded into everything we do. This includes deeply researched content for governments and other public entities, made available for all researchers and practitioners so that they can build on our work rather than having to reinvent the wheel.



Our Programs



Public Policy Consultations

... through our **Meetups** with the following partners and organizations, in person and online, national and global in scale:

- Australian Human Rights Commission
- European Commission
- G7 Multi Stakeholder Conference on Artificial Intelligence
- Government of Scotland
- Office of the Privacy Commissioner of Canada (OPCC)
- Partnership on AI
- Prime Minister's Office of New Zealand
- World Economic Forum; and others.



Research Projects

... **Topics** include::

- Comprehensiveness of Archives: A modern AI-enabled approach to building comprehensive shared cultural heritage
- Exploring the uncanny valley of climate change misinformation
- Folding IN the margins: Building inclusive AI systems using indigenous data
- SECure - Social and Environmental Certificate for AI systems
- Participatory Design as a mechanism for building trustworthy AI
- Participatory Design to build better contact- and proximity-tracing apps trust: the critical pillar of society; and others.



Our Programs



Learning Communities

... on **Slack** and **Zoom** that meet regularly every two weeks on the following topics:

1. Complex Systems Theory
2. Disinformation
3. Labor Impacts of AI
4. Machine Learning Security
5. Privacy



Curriculum Design

... designing and delivering **education training programs** for law and policy on the ethical, social and regulatory implications of an organization's AI strategy.



Inclusive Community Building

... leveraging important values such as diversity and inclusion and offering access to a **community of over 2600+ members** with whom we have hosted over 45 workshops.



Examples of Past Meetups



**The Future of Education
(Part 2)**
(Nov 15, 2018)

Host: **Microsoft**
Attendees: 178



**Discrimination in the
Systems – Gender, Race,
Class, & Power**
(November 29, 2019)

Host: **McGill University**
Attendees: 468



**AI Ethics: Public Consultation On
Scotland's AI Strategy**
(May 4, 2020)

Event held online
Attendees: 61



**AI Ethics: Publication Norms for
Responsible AI (Part 1)**
(May 13, 2020)

Event held online
Co-host: **Partnership on AI**
Attendees: 147



The Meetups

...and why they are so effective



Working Together

They offer participants a way to learn and work together, and leverage diverse and global expertise



Solution-oriented

They allow participants to pool together insights and look for impactful solutions



Meaningful Feedback

For organizations that have CFPs out, the meetups offer an opportunity to receive more comprehensive feedback compared to the responses that they might get from single individuals



Inclusion & Diversity

They bring people together from all over the world and give them access to the Ethics of AI ecosystem



Partners We've Worked With

Government

- Australian Human Rights Commission
- European Commission
- G7 Multi Stakeholder Conference on Artificial Intelligence
- Government of Scotland
- Office of the Privacy Commissioner of Canada (OPCC)
- Prime Minister's Office, New Zealand
- Treasury Board Secretariat, Canada

Corporations

- ABB
- ARUP
- Deloitte
- Element AI
- Espace CDPQ
- Expedia
- EY
- Fasken
- Lightspeed
- Maluuba
- Microsoft
- OVH
- PwC
- SAP
- Shopify
- Stradigi AI

Nonprofits

- Acorn Aspirations
- AI Global
- Alberta Machine Intelligence Institute (AMII)
- DEFCON AI Village
- **LF AI Foundation at The Linux Foundation**
- Mechanism Design for Social Good (MD4SG)
- ML Retrospectives
- Montreal International
- Montreal Neurological Institute (MNI)
- Montreal NewTech
- Mozilla Foundation
- NeurIPS
- UpstartED

Academia

- College Ste-Marcelline
- Concordia University / District 3
- Dawson College
- Goethe University / Frankfurt Big Data Lab
- McGill University / Dobson Centre for Entrepreneurship, School of Continuing Studies, Building 21
- MILA
- Northwest Commission on Colleges and Universities (NWCCU)
- OCAD U
- Oxford Internet Institute
- Université de Montréal

Multilateral Organizations

- The Banff Forum
- International Network for Government Science Advice
- Partnership on AI
- United Nations / AI for Good Global Summit
- World Economic Forum



Meet The Team

We are applied researchers and practitioners with technical and policy experience in operationalizing responsible AI.



Abhishek Gupta
Founder



Renjie Butalid
Co-founder



Tania DeGasperis
Associate



Mo Akif
Director of Communications



Marianna Ganapini
Researcher



Camylle Lanteigne
Researcher



Allison Cohen
Researcher



Victoria Heath
Researcher

The logo for MAIEI is displayed within a black square. The letters 'MAIEI' are rendered in a white, sans-serif font. The letter 'E' is stylized with a blue-to-white gradient and a slight shadow effect.

Let's work together!

Contact:

Abhishek Gupta, Founder

abhishek@montrealethics.ai






LF AI General Updates











Project Updates

LF AI Hosted Projects

Graduation

 Acumos ★ 10 LF Artificial Intelligence Foundation	 Angel ★ 5,825 Angel-ML LF Artificial Intelligence Foundation	 ONNX ★ 8,424 LF Artificial Intelligence Foundation	
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Incubation

 Adlik ★ 102 LF Artificial Intelligence Foundation	 EDL Elastic Deep Learning ★ 76 LF Artificial Intelligence Foundation	 ForestFlow ★ 16 LF Artificial Intelligence Foundation	 Horovod ★ 9,297 LF Artificial Intelligence Foundation	 Ludwig ★ 6,706 Uber MCAp: \$60.39B
 MARQUEZ ★ 285 The We Company Funding: \$19.55B	 Milvus ★ 3,372 LF Artificial Intelligence Foundation	 NNStreamer ★ 212 LF Artificial Intelligence Foundation	 Pyro ★ 6,241 LF Artificial Intelligence Foundation	 sparklyr ★ 734 LF Artificial Intelligence Foundation

Upcoming Releases

For links to details on upcoming releases for LF AI hosted projects visit the [Technical Project Releases wiki](#)

Project releases will be announced via a blog post and promoted on LF AI [Twitter](#) and/or [LinkedIn](#) social channels

If you are an LF AI hosted project and would like LF AI to promote your release, reach out to pr@lfai.foundation to coordinate in advance (min 2 wks) of your expected release date. Please email pr@lfai.foundation for more details and/or questions.

Outreach Committee

LF AI PR/Comms

- › Please follow LF AI on [Twitter](#) & [LinkedIn](#) and help amplify news via your social networks - Please retweet and share!
 - › Also watch for news updates via the tac-general mail list
 - › View recent announcement on the [LF AI Blog](#)
- › Open call to publish project/committee updates or other relevant content on the [LF AI Blog](#)
- › To discuss more details on participation or upcoming announcements, please email pr@lfai.foundation

Events

- › Upcoming Events
 - › Visit the [LF AI Events Calendar](#) or the [LF AI 2020 Events wiki](#) for a list of all events
 - › To participate visit the [LF AI 2020 Events wiki page](#) or email info@lfai.foundation
- › Please consider holding virtual events
 - › To discuss participation, please email events@lfai.foundation

Call to Participate in Ongoing Efforts

Trusted AI

- › **Leadership:**
Animesh Singh (IBM), Souad Ouali (Orange), and Jeff Cao (Tencent)
- › **Goal:** Create policies, guidelines, tooling and use cases by industry
- › **Github:**
<https://github.com/lfai/trusted-ai>
- › **Wiki:**
<https://wiki.lfai.foundation/display/DL/Trusted+AI+Committee>
- › **To participate:**
<https://lists.lfai.foundation/g/trustedai-committee/>
- › **Next call:** Bi-weekly on Thursdays at 7am PT, subscribe to group calendar on wiki
<https://wiki.lfai.foundation/pages/viewpage.action?pageId=12091895>

ML Workflow & Interop

- › **Leadership:**
Huang “Howard” Zhipeng (Huawei)
- › **Goal:**
Define an ML Workflow and promote cross project integration
- › **Wiki:**
<https://wiki.lfai.foundation/display/DL/ML+Workflow+Committee>
- › **To participate:**
<https://lists.lfai.foundation/g/mlworkflow-committee>
- › **Next call:** Every 4 weeks on Thursdays at 7:00 am PT, subscribe to group calendar on wiki
<https://wiki.lfai.foundation/pages/viewpage.action?pageId=18481242>

Upcoming TAC Meetings

Upcoming TAC Meetings

- › **July 2:** Cancelled due to OSS NA
- › **July 19:** [Mindspore Presentation](#)

Please send agenda topic requests to tac-general@lists.lfai.foundation

TAC Meeting Details

- › To subscribe to the TAC Group Calendar, visit the wiki: <https://wiki.lfai.foundation/x/XQB2>
- › Join from PC, Mac, Linux, iOS or Android: <https://zoom.us/j/430697670>
- › Or iPhone one-tap:
 - › US: +16465588656,,430697670# or +16699006833,,430697670#
- › Or Telephone:
 - › Dial(for higher quality, dial a number based on your current location):
 - › US: +1 646 558 8656 or +1 669 900 6833 or +1 855 880 1246 (Toll Free) or +1 877 369 0926 (Toll Free)
- › Meeting ID: 430 697 670
- › International numbers available: <https://zoom.us/u/achYtcw7uN>

Open Discussion

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