Antitrust Policy Notice

› Linux Foundation meetings involve participation by industry competitors, and it is the intention of the Linux Foundation to conduct all of its activities in accordance with applicable antitrust and competition laws. It is therefore extremely important that attendees adhere to meeting agendas, and be aware of, and not participate in, any activities that are prohibited under applicable US state, federal or foreign antitrust and competition laws.

› Examples of types of actions that are prohibited at Linux Foundation meetings and in connection with Linux Foundation activities are described in the Linux Foundation Antitrust Policy available at http://www.linuxfoundation.org/antitrust-policy. If you have questions about these matters, please contact your company counsel, or if you are a member of the Linux Foundation, feel free to contact Andrew Updegrove of the firm of Gesmer Updegrove LLP, which provides legal counsel to the Linux Foundation.
Agenda

› Mission of the LF Deep Learning Foundation
› LF DL -- Governance and Structure
   › Review of LF DL as an “Umbrella Project”
   › Governing Board
      › Budget
   › Technical Advisory Committee
      › Project Contribution Process
   › Outreach Committee
      › Marketing Statistics
› Review of LF DL Activities Since March 2018 Launch
› Supported Projects
   › Acumos AI Project
   › Angel Project
   › EDL Project
› More Information / How to Get Involved
› Discussion / Q&A
LF DL Mission and Strategic Goals

› LF DL is driving open source innovation in AI by building and supporting an ecosystem of AI / ML / DL projects.

› LF DL seeks to enable not only enhanced code development and collaboration, but also to open up new business models and opportunities for the community.

› Goals include:
  › Increasing the ease of use of AI, “democratizing” AI
  › Establishing a neutral environment for collaboration with shared tools and infrastructure
  › Maintaining an “app store” for AI workflows with a marketplace for data models
  › Reduce fragmentation, redundancy and waste in open source AI
Launched March 2018, LF DL is an “umbrella project” of The Linux Foundation, in that a single funding effort supports numerous technical projects.

With an umbrella project, there is one funding body – the Governing Board – that in turn supports various projects.

The umbrella structure allows our project communities to:

- Smooth resource requirements of projects, with maturing projects (needing fewer resources) balanced against newer projects that require investment;
- Reduce fragmentation and increase harmonization across a wide segment of industry; and
- Express a strategic vision across numerous open source projects over a long duration.
LF DL -- Governance and Structure

› Following our principle of separation of technical governance from funding governance, technical projects have their own technical governance and IP policies.

› The funding governance for the LF Deep Learning Foundation – how decisions are made – is set forth within the Foundation’s Charter, which can be reviewed on the Foundation’s web site (www.deeplearningfoundation.org).
LF DL -- Governance and Structure

We currently have 16 members, including:

- Amdocs
- AT&T
- BYOND
- Baidu
- Ciena
- DiDi
- Huawei
- Intel AI
- Nokia
- orange
- redhat
- Tech Mahindra
- Tencent
- UNIVA
- ZTE
LF DL -- Governance and Structure

- Governing Board
- Technical Advisory Council
- Outreach
- Legal
- Budget
- Acumos AI Series LLC
- EDL Series LLC
- Angel Series LLC
- Dev Community
Governing Board

› Responsible for “Funding Governance” of LF DL

› Composition:
  › Appointees of Premier Members
  › Elected representative of General Members
  › TAC Chair

› The General Member representative is elected annually, and is Francois Jezequel (francois.jezequel@orange.com)

› Meetings monthly, generally on the first Tuesday of the month.
Technical Advisory Council

› Technical Advisory Council
  › Serves a coordination role:
    › Facilities communication across and among the supported technical projects; and
    › Communicates needs and requirements of the projects to the Governing Board
      › The chair of the TAC is a member of the Governing Board
    › The TAC on-boards new projects, assists in progression of existing projects, and reviews projects annually
  › Membership on the TAC is made up of:
    › Premier Member appointees; and
    › A representative of certain of the supported technical projects.
  › The TAC meets every two weeks
    › Meetings are recorded and fully open to the public
    › TAC recordings and materials can be accessed at https://lists.deeplearningfoundation.org/g/tac-general/wiki/home
      (note: sign-up on the LF Deep Learning mailing list is currently required)
TAC Wiki

› We have established a Wiki for the TAC which can be found here (login to lists.deeplearning.org required):

› https://lists.deeplearningfoundation.org/g/tac-general/wiki/home
Project Contribution Process

‒ LF DL is actively looking to support additional projects. We are maintaining active discussions with a number of third-party open source projects.

‒ We have a project lifecycle document that sets forth the requirements for a supported project at various stages. Our TAC is responsible for initial project acceptance reviews, and if funding is required the Governing Board will also review the project.

‒ The TAC has expressed an interest in taking an inclusive approach to supporting projects, versus a ‘check the box’ and only accepting one project in a particular category.

‒ Project lifecycle and contribution documents for LD DL can be found on: www.deeplearningfoundation.org.
Outreach Committee

› Responsible for community outreach and marketing for LF DL.
› Proposes events and activities for support to the Governing Board.
› Meetings are public, and all members are invited to send representatives. The Outreach Committee meets every two weeks for 45 minutes on every other Wednesday at 9:00 am ET.
Brief review of launch coverage - 451 Articles Total

- Computer Business Review, Linux launches AI Project to help build the future of AI, 3.26.18
- eWeek, LF Deep Learning Foundation Debuts to Advance AI Usage, 3.26.18
- Datanami, Linux Foundation Launches Open AI Effort, 3.29.18
- FierceTelecom, Linux Foundation launches LF Deep learning Foundation to accelerate AI growth, 3.26.18
- Light Reading, Linux Foundation Injects Open Source Into AI, 3.26.18
- *LF Deep Learning was also mentioned in relation to an article written by Carol Wilson of Light Reading around additional Open Networking Summit news.*
- Linux Journal, New Firefox Add-on Prevents Facebook Tracking, the Linux Foundation Announces the LF Deep Learning Foundation and More, 3.27.18 (news roundup)
- Linux Gizmos, Intel contributes open source NEV and Titanium code to "Akraino" edge computing project, 3.27.18
- SD Times, The Linux Foundation launches the LF Deep Learning Foundation, 3.26.18
- SDxCentral, Linux Foundation Creates Deep Learning Foundation and AI Project, 3.26.18
- TechCrunch, The Linux Foundation launches a deep learning foundation, 3.26.18
- ZDNet, Linux Foundation pushes open-source AI forward with the Deep Learning Foundation, 3.26.18
Brief review of Acumos AI Challenge coverage - 100 Articles Total

› CommunicationsToday: https://www.communicationstoday.co.in/atts-gilbert-on-the-hunt-for-ai-solutions/
› Enterprise Management: https://www.em360tech.com/tech-news/linux-foundation-ai-competition/
› FierceTelecom: https://www.fiercetelecom.com/telecom/at-t-s-gilbert-talks-about-ai-competition-his-company-sponsoring-tech-mahindra
› Linux Journal: https://www.linuxjournal.com/content/linux-lite-40-released-linux-foundations-acumos-ai-challenge-fedora-29-bootloader-debate
Brief review of new member announcement coverage - 144 Articles Total

Brief review of Angel/EDL coverage - English - 237 Articles Total

- TelecomTV (also included in e-newsletter): https://www.telecomtv.com/content/ai-ml/the-linux-foundation-strengths-its-push-into-ai-and-ml-32144/
- TuxMachines: http://www.tuxmachines.org/node/115066
Press Release Overview

Press releases issued August 29 in Chinese and English

Chinese Media Coverage

- 25 Chinese media
- Multiple posts on social media promoting the news
- Total media clips: 50
- Potential readership: 30,000
Summary of Media Coverage to Date

Total articles: 1,268
Total opportunities to see: 429,294,833
Events

Upcoming Events:
› LF DL and Acumos Day, New York City, November 5, 2018
   › Registration page should be up within a week
› Booth at KubeCon Shanghai, November 13-15

Prior Events:
› Acumos / LF DL Day in Paris, July 2018
› Acumos / LF DL Day in Vancouver, August 2018
Review of LF DL Activities Since March 2018 Launch

› Achievements and accomplishments
  › Community building and initial formation of the Foundation;
  › Infrastructure established to enable code development
  › Acumos AI Project TSC and subcommittee meetings and progression towards November release under way
  › Lifecycle and Project Contribution Process Documents have been finalized by the community
  › Two additional projects, for a total of three, have been accepted into the LF Deep Learning Foundation
  › Discussions to enable collaboration with additional projects under way
LF DL Projects

› We currently have 3 technical projects within the Foundation:
  › Acumos AI Project
  › Angel Project*
  › EDL Project*

› Projects are on-boarded and progress pursuant to the LF Deep Learning Foundation’s Lifecycle and Project Contribution Process Documents.
  › Three stages: Incubation, Graduation and Archive.
  › These documents can be found at www.deeplearningfoundation.org.

* Incubation-stage projects.
LF DL Projects

› Acumos AI Project
  › AI model workflow and discovery platform
  › Web site: www.acumos.org
  › Wiki: wiki.acumos.org
  › TSC meetings are every Monday, 9:00 am ET
  › TSC subcommittees are also meeting weekly, and information on those meetings
  › TSC chair: Jack Murray, jfm@research.att.com
LF DL Projects

Acumos AI Project

1. Create & On-Board Models
   - AI Development Service and tools (Scikit-Learn, Tensor Flow, H2O, RCloud)

2. Enhancing Model With Application Data Sets
   - Data Sources
   - Training Dataset
   - Training / Testing Lifecycle

3. Sharing Models In Marketplace
   - AI Platform & Marketplace
   - Search
   - Review
   - Chaining
   - Rating

4. Execute In Target Environment
   - Runtime Systems
   - Docker Images
   - Onboard
   - Deploy

Continuous Learning

THE LINUX FOUNDATION

DEEP LEARNING

25
LF DL Projects

› Acumos AI Project – Extensive Resources on wiki.acumos.org
LF DL Projects

› Acumos Marketplace
Acumos AI Project – Areas of Focus

› Model Interoperability (ONNX, PFA)
› Licensing
› Model Validation, how to assure the model is deployable by industry stand practice. Licensing, attribution, software scanning and security, build tracking, and trust
› Training
› Data strategy
LF DL Projects

Angel Project

- GitHub: https://github.com/Tencent/angel
- > 1,000 commits, 24 contributors
- License: Apache-2.0
- Lead developer: Fitz Wang, fitzwang@tencent.com

Description:

Angel is a high-performance distributed machine-learning platform based on Parameter Server, running on YARN and Apache Spark. It is tuned for performance with big data/model and has a wide range of applicability and stability, demonstrating increasing advantage in handling higher dimension model. Angel supports big and complex models with billion of parameters.
LF DL Projects

› EDL Project
  › GitHub: [https://github.com/paddlepaddle/edl](https://github.com/paddlepaddle/edl)
  › 902 commits, 14 contributors
  › License: Apache-2.0
  › Lead developer: Wu Yi, wuyi05@baidu.com
  › Description:
    › EDL is an Elastic Deep Learning framework designed to help Deep Learning Cloud Service providers to build cluster cloud services using different deep learning frameworks.
LF DL Projects

The TAC is actively reaching out to projects for contribution and collaboration. If you have a project that could benefit from:

- Community building
- Marketing and brand outreach strategies
- Developer support
- Collaboration with other projects

Please reach out to us!
More Information / How to Get Involved

› Review the materials on LF Deep Learning Foundation and its project web sites.
› Technical meetings of the projects supported by LF Deep Learning Foundation are open to the community – join a meeting.
› The only requirement to participating in a project is compliance with the project’s technical charter. If you see a problem you can solve, a feature you can add, or other value you might be able to provide, we encourage you to begin contributing code and other artifacts to the project.
› TAC meetings are every two weeks and are also open to the public – these can give you a good sense as to project-level priorities and direction of LF Deep Learning Foundation.
Meetings – How to Participate

› LF DL TAC
  › Every other Thursday, 9:00 am ET. Next TAC meeting is 10/11/2018
  › https://zoom.us/j/113165889

› LF DL Outreach
  › Every other Wednesday, 9:00 am ET. Next Outreach meeting is 9/26/2018
  › https://zoom.us/j/995104129

› Acumos AI Project TSC
  › Numerous sub-committee meetings, see wiki.acumos.org for additional information
  › TSC meets every Monday, 9:00 am ET.
  › TSC meeting: https://zoom.us/j/367282276
Thank You!

Thank you for your participation in LF DL and its technical projects. If at any time the LF team can provide assistance with respect to LF DL or any of its projects, please reach out to any of us:

› snicholas@linuxfoundation.org
› jserafin@linuxfoundation.org
Questions / Discussion
Legal Notices

The Linux Foundation, The Linux Foundation logos, and other marks that may be used herein are owned by The Linux Foundation or its affiliated entities, and are subject to The Linux Foundation’s Trademark Usage Policy at https://www.linuxfoundation.org/trademark-usage, as may be modified from time to time.

Linux is a registered trademark of Linus Torvalds. Please see the Linux Mark Institute’s trademark usage page at https://lmi.linuxfoundation.org for details regarding use of this trademark.

Some marks that may be used herein are owned by projects operating as separately incorporated entities managed by The Linux Foundation, and have their own trademarks, policies and usage guidelines.

TWITTER, TWEET, RETWEET and the Twitter logo are trademarks of Twitter, Inc. or its affiliates.

Facebook and the “f” logo are trademarks of Facebook or its affiliates.

LinkedIn, the LinkedIn logo, the IN logo and InMail are registered trademarks or trademarks of LinkedIn Corporation and its affiliates in the United States and/or other countries.

YouTube and the YouTube icon are trademarks of YouTube or its affiliates.

All other trademarks are the property of their respective owners. Use of such marks herein does not represent affiliation with or authorization, sponsorship or approval by such owners unless otherwise expressly specified.

The Linux Foundation is subject to other policies, including without limitation its Privacy Policy at https://www.linuxfoundation.org/privacy and its Antitrust Policy at https://www.linuxfoundation.org/antitrust-policy, each as may be modified from time to time. More information about The Linux Foundation’s policies is available at https://www.linuxfoundation.org.

Please email legal@linuxfoundation.org with any questions about The Linux Foundation’s policies or the notices set forth on this slide.