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## VIDEO



## Q&A WITH SPEAKER SPEAKER BIO



**Chris Wright**  
CTO  
Red Hat

Chris Wright is senior vice president and chief technology officer (CTO) at Red Hat. Wright leads the Office of the CTO, which is responsible for incubating emerging technologies and developing forward-looking perspectives on innovations such as artificial intelligence, cloud computing, distributed storage, software defined networking and network functions virtualization, containers, automation and continuous delivery, and distributed ledger. During his more than 20 years as

## SLIDES



## CAPTIONING

You are connected to event: **Linux-Foundation**

**Themes:****Font Size:****Font Family:****Background:****Text Color:**

Questions? Ask the Events team on the #1-helpdesk Slack channel

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## Q&A WITH SPEAKER SPEAKER BIO



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## SLIDES

### A2I POWER Processor Core – Now Open!!

- Design optimized for high aggregate throughput
- Balanced performance and power with modular design
- Implemented in 45nm SOI (Silicon on Insulator)
- Developed for PowerEN (Edge-of-Network) "wire-speed processor" design
- Used in BlueGene/Q (HPC) as the general purpose processor

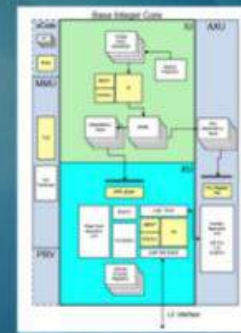
#### A2I Design Features

- 64-bit PowerISA v2.06 Book III-E
- 4W SMT, 2W issue
- In-order dispatch/execution w/dynamic branch prediction (8K BHT)
- L1: 16K 4W IC, 16K 8W DC, 64B line
- Modular design w/optional units for application-specific implementations
  - MMU: 512 x 4 TLB, 4TB physical addressability
  - AXU: tightly-coupled coprocessor interface, 32B L/S
  - Microcode engine
- Full support for both big and little endian byte ordering

Available Now



RTL, documentation, and FPGA environment (A2I core with AXI interface)



**45nm**  
Area = 2.9mm<sup>2</sup>  
3.0 GHz max  
2.3 GHz @ .9W

**7nm Estimation**  
Area = 0.17mm<sup>2</sup>  
4.2 GHz @ .5W  
3.0 GHz @ .15W

## CAPTIONING

You are connected to event: **Linux-Foundation**

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Scr



today the Open Power foundation is announcing that IBM's A2I power



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and invoking its core values...

" . . . Each Of the citizens of this country has an equal right to live and work in America. It is the policy of this organization to hire people who have the personality, talent and background necessary to fill a given job, regardless of race, color or creed."

T.J. Watson, IBM CEO

**September 1953, more than a decade before the passage Of the Civil Rights Act**

INTERNATIONAL BUSINESS MACHINES CORPORATION  
500 MADISON AVENUE  
NEW YORK 22, N. Y.

OFFICE OF  
THE PRESIDENT  
Confidential

September 21, 1953

Policy Letter #4

The purpose of this letter is to restate for all of the supervisory personnel of the IBM Company the policy of this corporation regarding the hiring of personnel with specific reference to race, color, or creed.

Under the American system, each of the citizens of this country has an equal right to live and work in America. It is the policy of this organization to hire people who have the personality, talent and background necessary to fill a given job, regardless of race, color or creed.

If everyone in IBM who hires new employees will observe this rule, the corporation will obtain the type of people it requires, and at the same time we will be affording an equal opportunity to all in accordance with American tradition.



T. J. Watson, Jr.



## VIDEO

"We believe now is the time to begin a national dialogue on whether and how facial recognition technology should be employed by domestic law enforcement agencies"

Arvind Krishna

IBM CEO, June 2020 letter to US Congress





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We have been working responsibly to bring

# Trust and Transparency into AI..

...relevant more so in these unprecedented times....



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# Trusted AI Lifecycle through Open Source

Pillars of trust, woven into the lifecycle of an AI application

Did anyone  
tamper with it?



**ROBUSTNESS**

Adversarial  
Robustness 360

↳ (ART)

[github.com/IBM/adversarial-robustness-toolbox](https://github.com/IBM/adversarial-robustness-toolbox)

[art-demo.mybluemix.net](https://art-demo.mybluemix.net)

Is it fair?



**FAIRNESS**

AI Fairness  
360

↳ (AIF360)

[github.com/IBM/AIF360](https://github.com/IBM/AIF360)

[aif360.mybluemix.net](https://aif360.mybluemix.net)

Is it easy to  
understand?



**EXPLAINABILITY**

AI Explainability  
360

↳ (AIX360)

[github.com/IBM/AIX360](https://github.com/IBM/AIX360)

[aix360.mybluemix.net](https://aix360.mybluemix.net)

Is it accountable?



**LINEAGE**

AI Factsheets



Share Your Experience on social - tag posts with #OSSummit #LFELC

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# Announcing: Moving Trusted AI projects in Open Governance to LFAI (Accepted into Incubation 6/18/20)

Adversarial  
Robustness 360

↳ (ART)

[github.com/IBM/adversarial-robustness-toolbox](https://github.com/IBM/adversarial-robustness-toolbox)

[art-demo.mybluemix.net](https://art-demo.mybluemix.net)

AI Fairness  
360

↳ (AIF360)

[github.com/IBM/AIF360](https://github.com/IBM/AIF360)

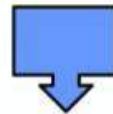
[aif360.mybluemix.net](https://aif360.mybluemix.net)

AI Explainability  
360

↳ (AIX360)

[github.com/IBM/AIX360](https://github.com/IBM/AIX360)

[aix360.mybluemix.net](https://aix360.mybluemix.net)



# LFAI



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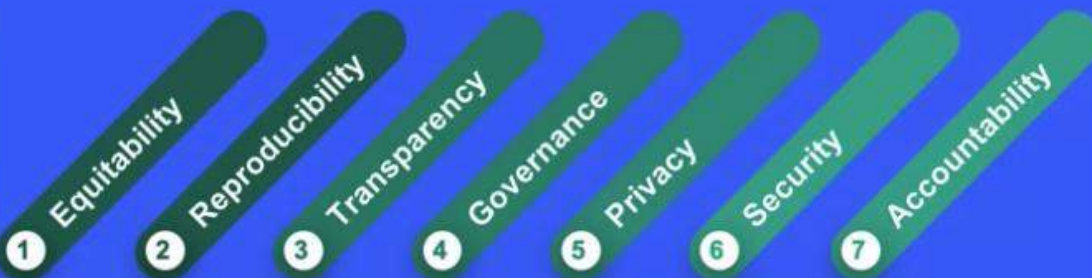


# Continuation of our mission with LFAI Trusted AI Committee

[bit.ly/trusted-ai](https://bit.ly/trusted-ai)

## LFAI Trusted AI Principles

- Identified 7 principles with participating organizations, which were abstracted from existing initiatives, and have been structured to be relevant for any open source project. Evolving further
- Agreed that principles will focus “beyond the algorithms” into the OSS governance process





# What's new

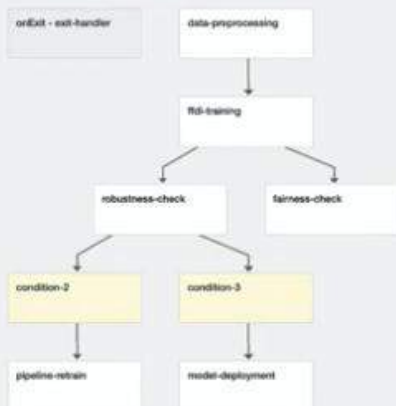
## AI Factsheets 360

<https://aifs360.mybluemix.net>



- AI Governance
- AI Transparency
- Sample factsheets with IBM Model Asset Exchange (MAX) models

## MLOps: Kubeflow Pipelines



- Starter MLOps components for AIF360 and ART
- Use for fairness and adversarial detection with Kubeflow Pipelines

<https://github.com/IBM/AIF360/tree/master/mlops>

## AIF 360

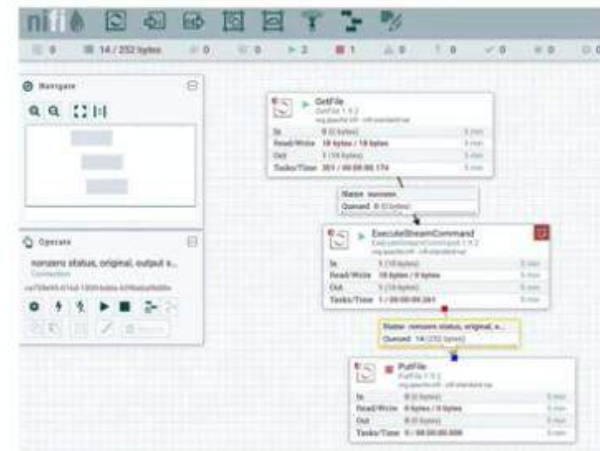


- Available now in R (before was only in python)
- Compatibility to Scikit Learn

### Blogs:

- [The AIF360 fairness toolkit is now available for R users](#)
- [The AIF360 team adds compatibility with scikit-learn](#)
- [IBM continues momentum in AI and trust leadership](#)

## MLOps: Apache Nifi



- Apache Nifi processor for AIF360

<https://fai.foundation/tag/apache-nifi/>



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MARIAN VILLA

PionerasDev, Colombia



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CAMILLA SHARPE

Global Business Line Executive, IBM





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# Open Source Adoption Challenges

- 1 Open Source Governance
- 2 Awareness of Open Source usage
- 3 Complex SW Stacks → Interoperability
- 4 Too much choice → Community vs. Commercial
- 5 Security → Compliance Requirements
- 6 Enterprise Support → Advisory + Break/Fix



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# Comprehensive support solutions for the Open Source ecosystem

**Linux***Subscription & Support***Commercial OSS***Subscription & Support***Community OSS***Support***Red Hat****ubuntu****Analytics**

Apache Maven  
Apache Spark  
Elasticsearch  
Kibana  
Logstash  
FluentD  
Grafana  
Jenkins  
Kafka  
Hadoop

**Application Runtime**

Java  
Node.js  
OpenJDK  
PHP  
Python  
Consul  
NetBeans  
Terraform  
Vault

**Containers**

Kubernetes  
Docker  
Helm  
ISTIO

**Middleware**

ActiveMQ  
Apache Camel  
Apache CXF  
BIND (Berkeley Internet  
Name Domain)  
CephFS  
Gluster / GlusterFS  
HornetQ  
Rabbit MQ  
Samba  
Sendmail  
Apache Artemis  
Apache SOAP (Axis)  
Apache XMLRPC  
Pacemaker

**Database**

Apache Cassandra  
Apache CouchDB  
Apache Derby  
Couchbase  
Galera  
MariaDB  
MongoDB  
MySQL  
PostgreSQL  
Redis

**Deployment Mgmt &**

Monitoring  
Ansible  
Chef  
Nagios  
Nagios Plugin  
Prometheus  
Puppet  
Zabbix

**Application Servers**

Apache Tomcat  
Apache httpServer  
Apache Solr  
Celiometer  
Drupal  
GlassFish  
Hibernate  
Joomla!  
Nginx  
Spring Framework  
WordPress  
Zookeeper  
Wildfly

**Software Development**

Artifactory  
Git  
GitLab  
Gawk  
PuTTY  
Cucumber

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