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Scikit-learn

some perspectives

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Development dynamics & prospects

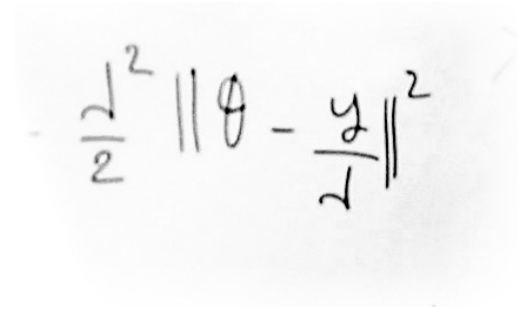
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Development dynamics

Scikit-learn : the vision


$$\frac{1}{2} \|\theta - y\|^2$$

- **Democratizing « machine learning »**

Mathematical building blocks of AI

Accessible beyond mathematicians and computer scientists

- **A tool also for production**

Avoid oversimplification : we target a technical audience

Quality software engineering

- **Open source**

10 years

2009

v0.1, released by
researchers at Inria

2017

ODSC price for best tool
Open Data Science Conference

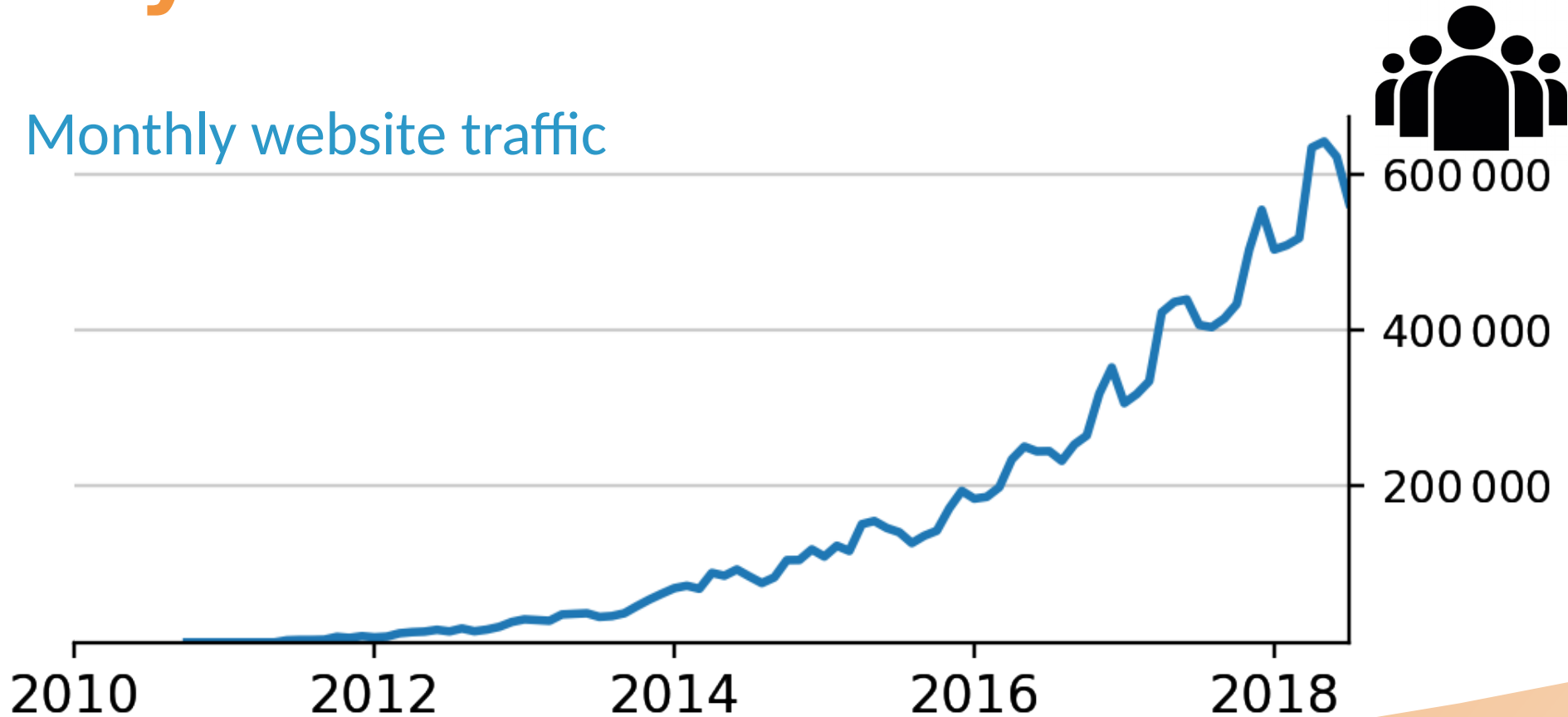
2011

1st international sprint

2010	2011	2012	2013	2014	2015	2016	2017	2018
v0.1	v0.8	v0.10	v0.13	v0.15	v0.17	v0.18	v0.19	v0.20
SVM	kNN		Gradient Boosting	Données sparses	Parallélisme		Données catégorielles	
Modèles linéaires	Clustering		Détection d'anomalie	Vitesse	Sélection de modèle		Calcul distribué	
	Random Forest							

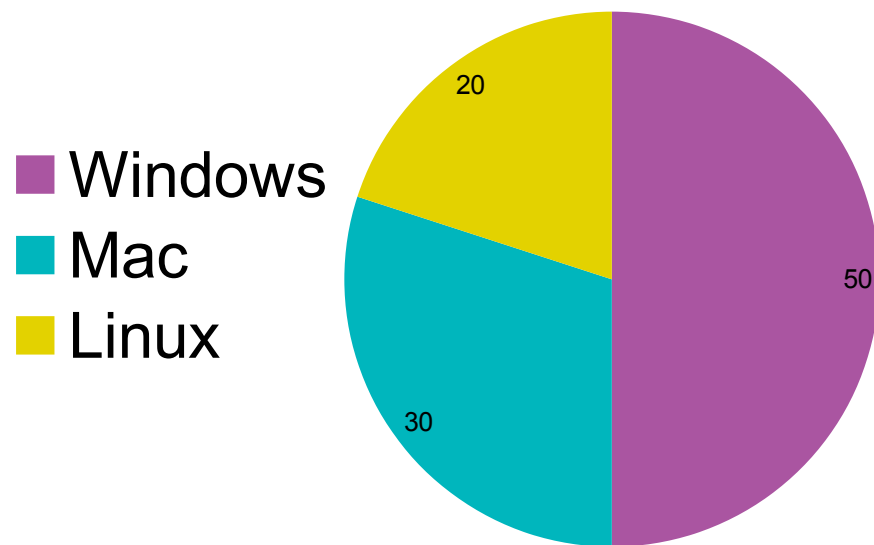
10 years

Monthly website traffic

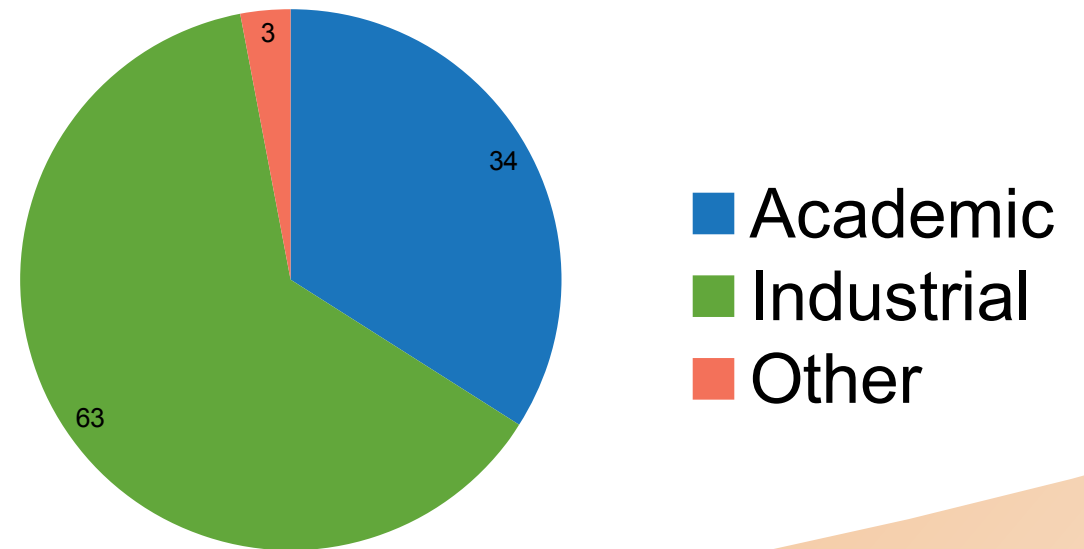


A large impact

>500 000 active users

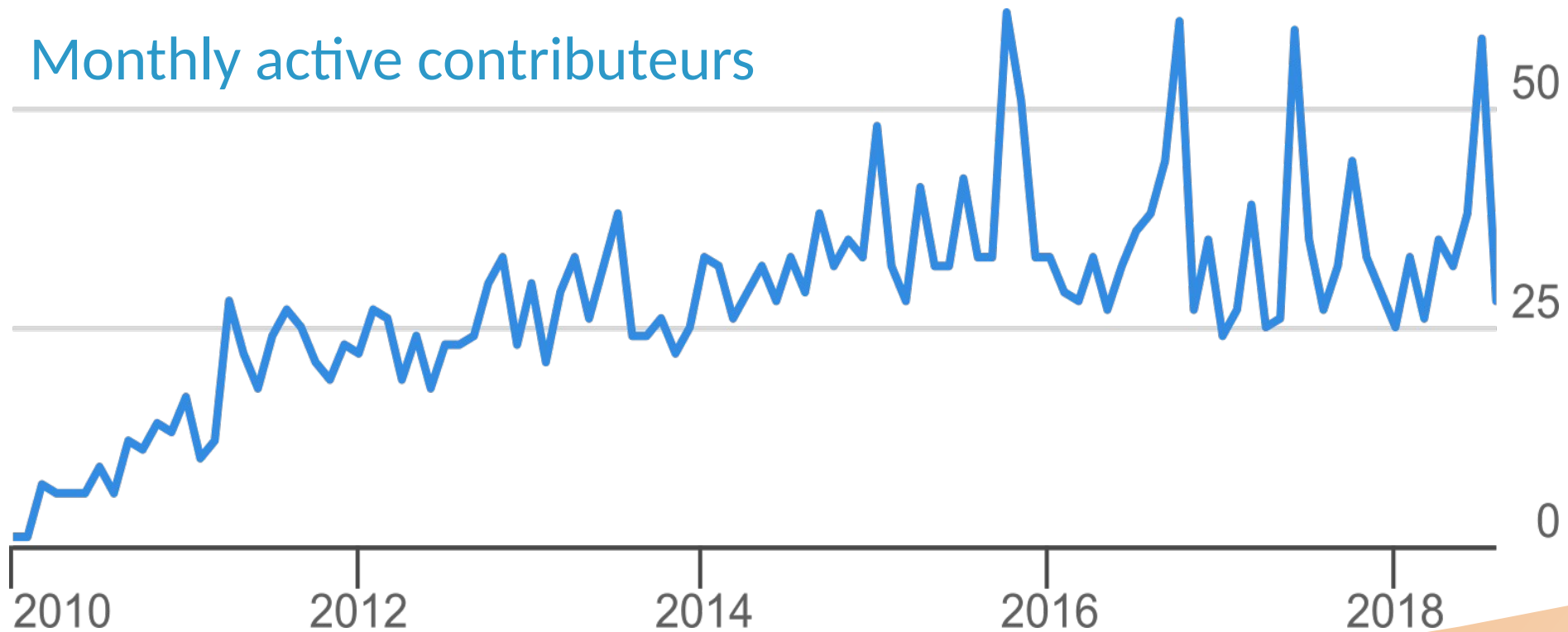


12 000 academic citations

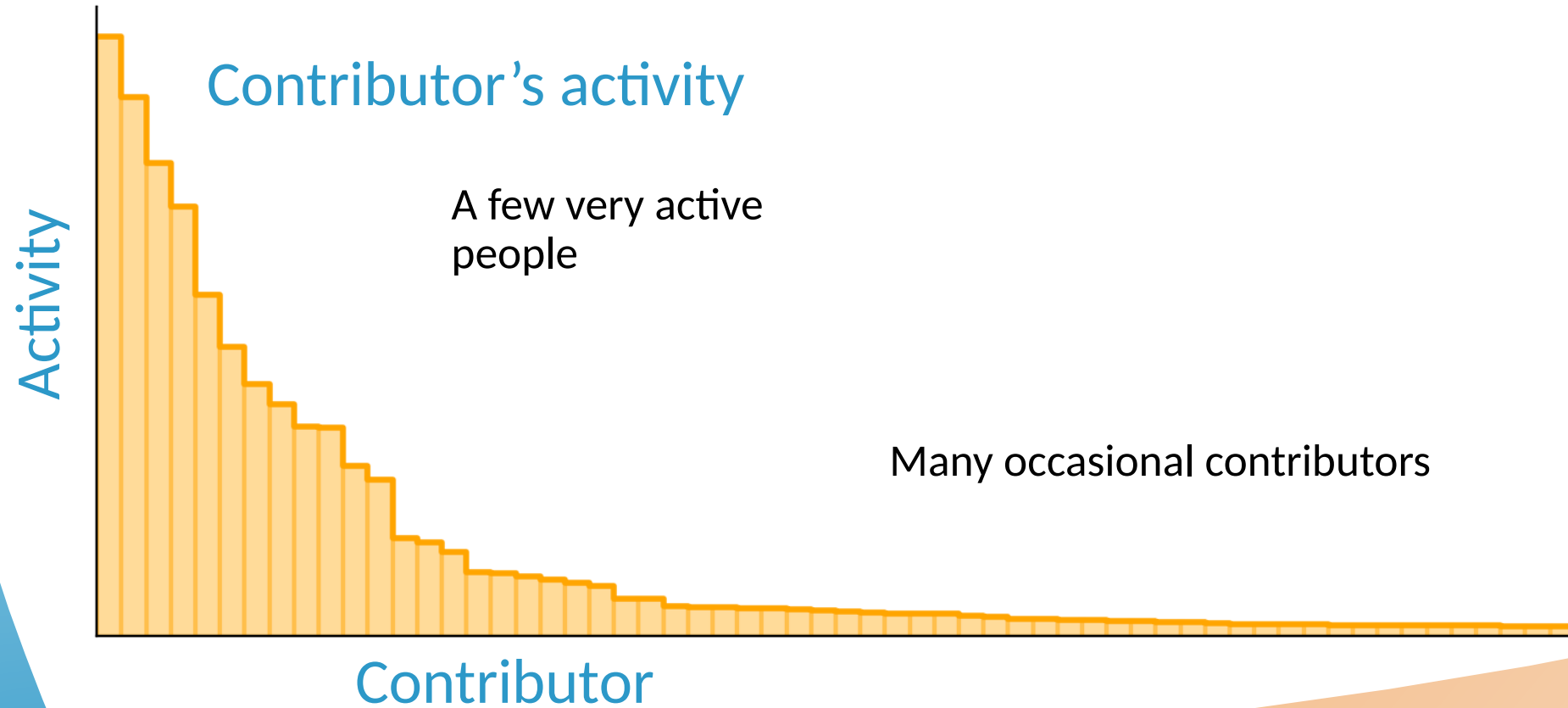


Community-driven development

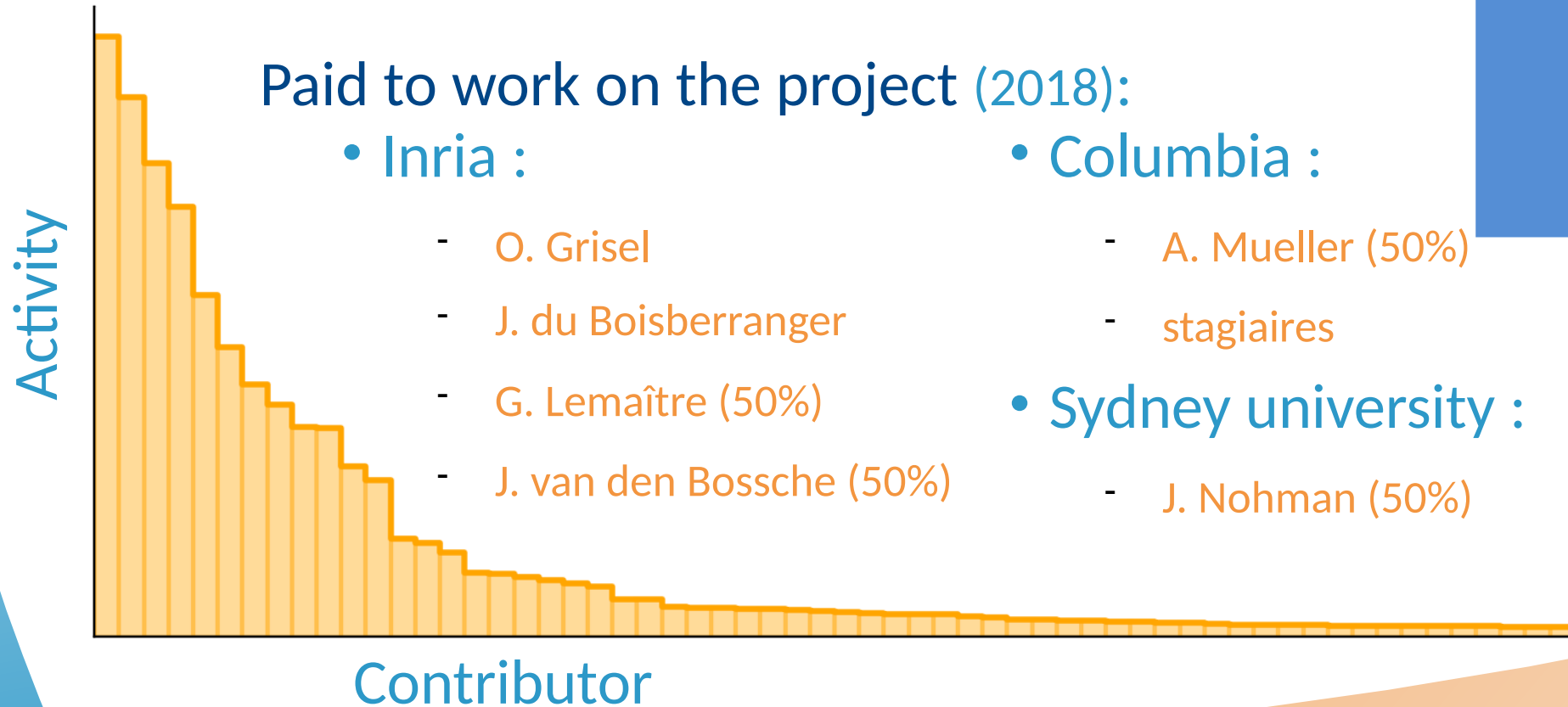
Monthly active contributors



Community-driven development



A professional core



Public
research
money

Scikit-learn @ fondation Inria

Mix community-driven development
with industrial interest

Sponsoring

- Goals : stimulate the development of scikit-learn
- Mixte governance between community and sponsors
 - Keep the energy and the confidence of the community
 - Take strategic recommendations from the industry



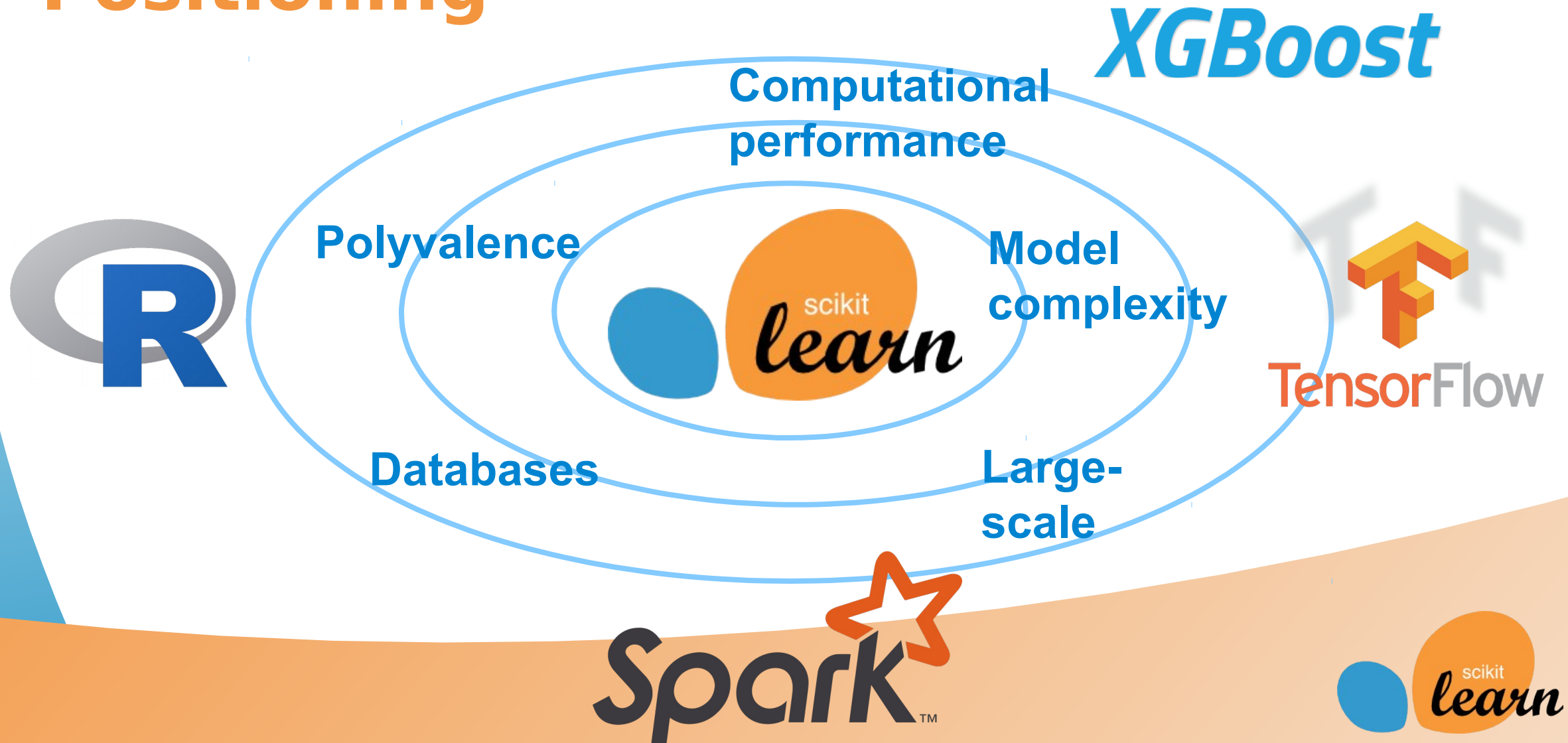
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Development prospects

Positioning



Scikit-learn, new ambitions

Interpretability & understanding

- Model interpretation
- Confidence

Scaling up

- Distributed computing
- Vendor accelerations

More frequent versions

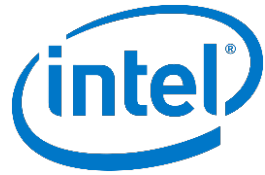
Data integration

- Missing data
- Categorical values



**Technical
committee**

Thanks to our partners



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