

Innovation in open source software

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What is

Open source software?!

Open source software is software with source code that **anyone** can inspect, modify, and enhance.

Its development **differs** from “traditional software” in many ways:

Many developers are **voluntary** in OSS, but paid workers in company

OSS teams are mostly **self-organized** without explicit hierarchy

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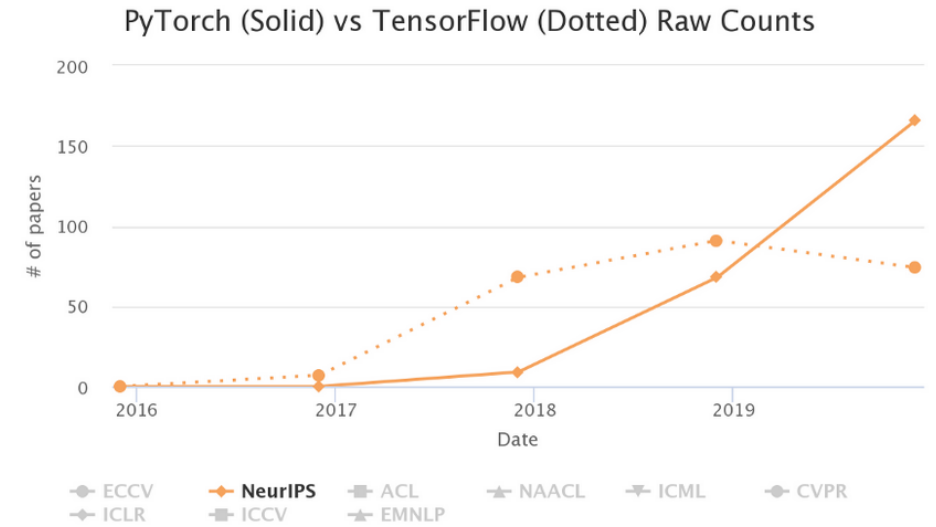
What is

Innovation ?!

Innovation is the implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new organization method in business practices, workplace organization, or external relations

Why innovation is
Important ?!

Innovation has huge impact



Research helps to **understand** the innovation process and **boost** innovation



We have accomplished a lot on the study of innovation

Some good theoretical/practical understanding on innovation:



Teams of diverse skills and background are good at innovation

Teams of smaller size are good at innovation

How much do we know about
OSS Innovation ?!

Basically Nothing???

Innovation study in traditional organizations
like company/government agency



Innovation study in OSS



Basically Nothing???

Lots of research working on “**open innovation**”

Some innovation research in **industrial software engineering**

Lack of study on the innovation in **OSS context**

**What do we want to know on
OSS Innovation ?!**

Basically Nothing !!!

That's not true ...

What is a good metric for OSS project innovation level ?

Try several innovation index proposed in other fields

Run the metrics in OSS, test the validity on “test cases”

What's the “innovation level” over all in OSS community?

How does it evolve across time?

Report (time-stamped) project innovative levels across GitHub

What kind of developer team creates innovative project ?

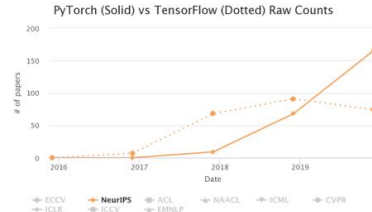
Individual level features (e.g. developer tenure)

Organizational level features (e.g. group size)

Social level features (e.g. cohesion)

Q & A

Innovation has huge impact



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What do we know about innovation in OSS so far

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Lack of study on the innovation in **OSS context**

Research question and experiment

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