

Why ONNX Runtime Matters for Deploying AI in Institution

Xavier Tao, Data Engineer, Banque De France

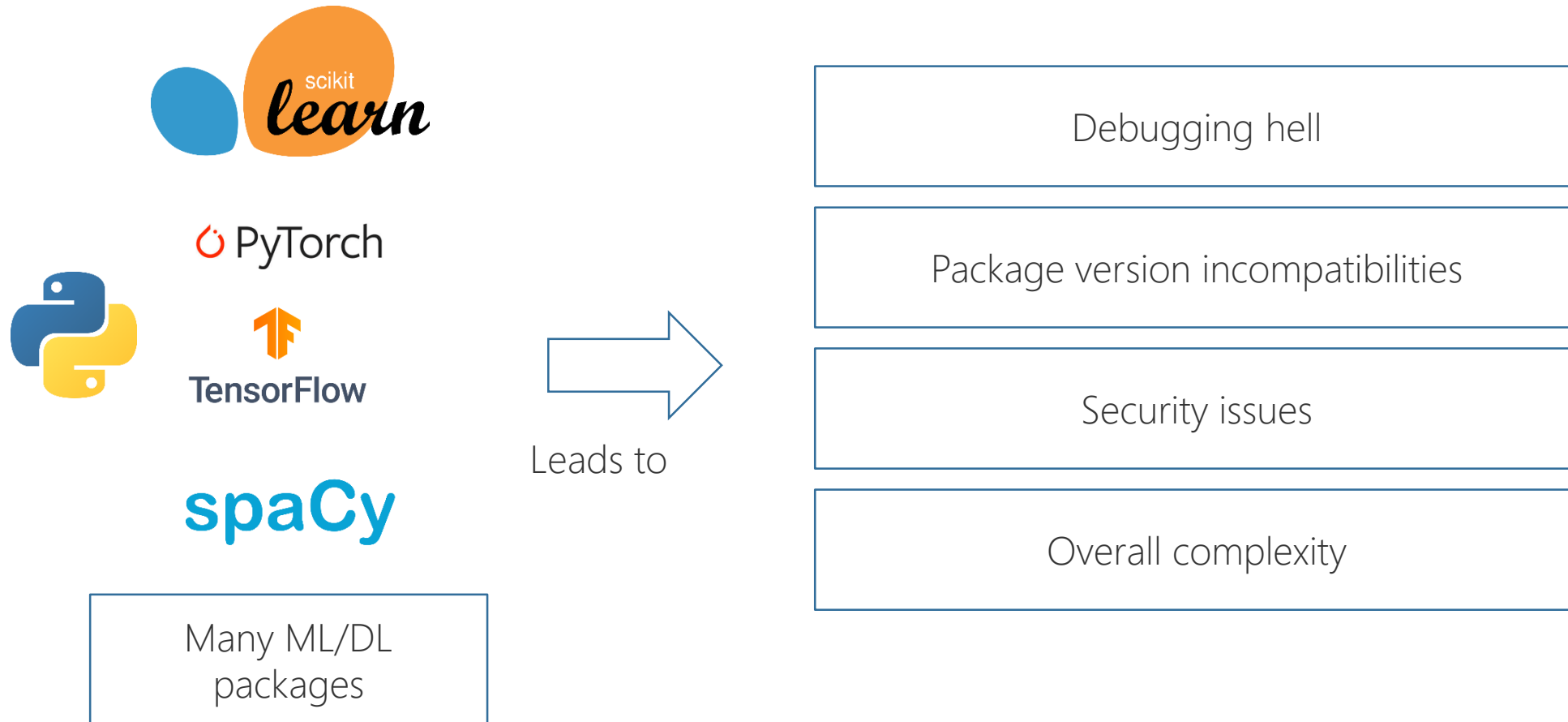
Banque de France is the Central Bank of France, but not only

- Banque de France primary mission is the management of the **money supply**
- But, we also do **regulation of banks and insurances companies**
- As well as **debt relief** for individuals and SMEs, national **economic forecast**

Artificial Intelligence has disrupted Banque de France operations

- From detecting fake banknotes
- Enhancing auditing capabilities of banks and insurances
- To discovering fraudulent public spending

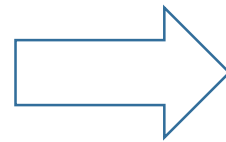
Institutions AI software mix several ML/DL technologies that is hard to maintain



Institutions infrastructure generates friction for deployment of AI



CPU / GPU / Cloud



Leads to...

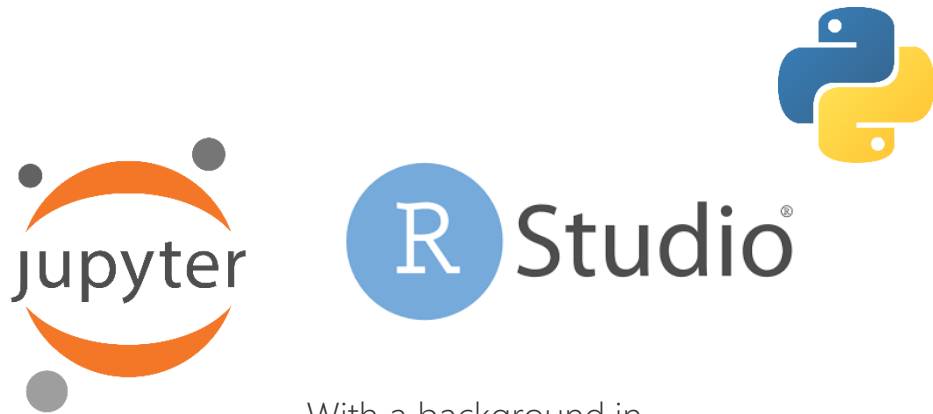
Randomness of result

Deployment issues

« But it worked on my machine »

Institutions organizational mix makes it hard to build production AI

DATA SCIENTIST STARTER PACK...



With a background in...

- | | |
|-------------------------|------------|
| Economics | Sociology |
| Business Administration | Statistics |
| | Math |

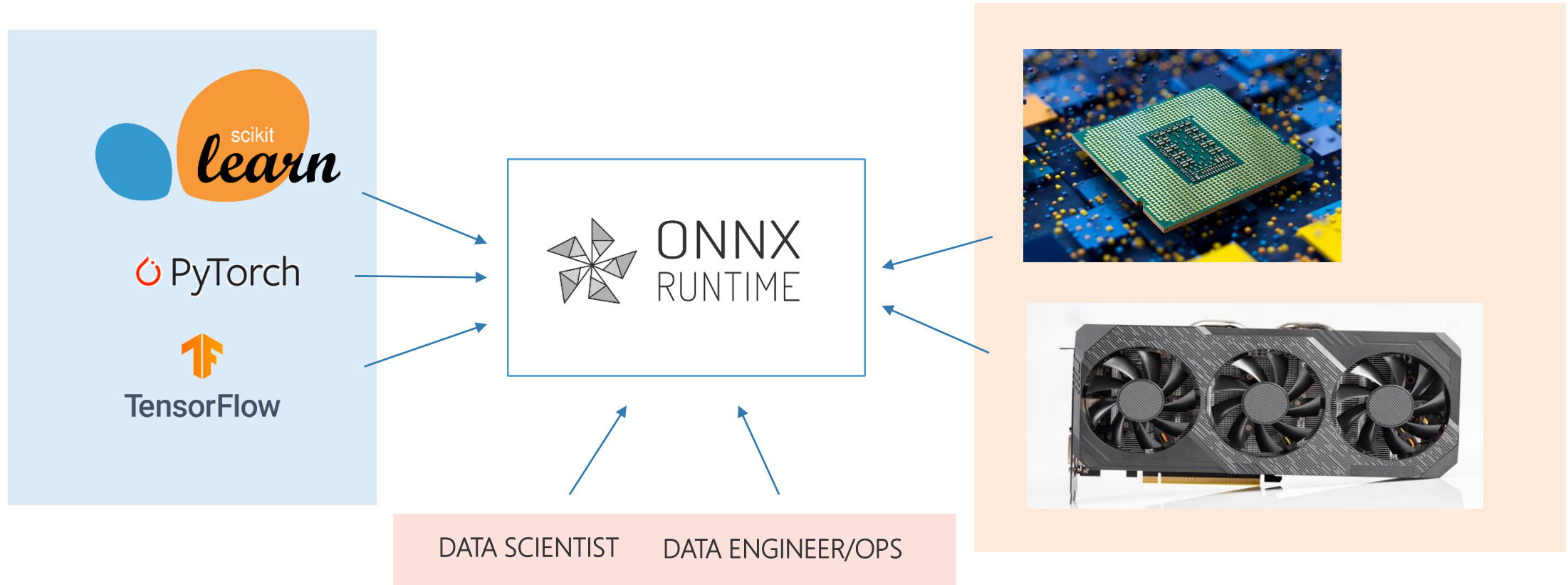
DATA ENGINEER/OPS STARTER PACK...



With a background in...

- | | |
|----------------------|-----------|
| Support | DevSecOps |
| Software Engineering | IT |

ONNX as a solution to the software, hardware, and organization problems

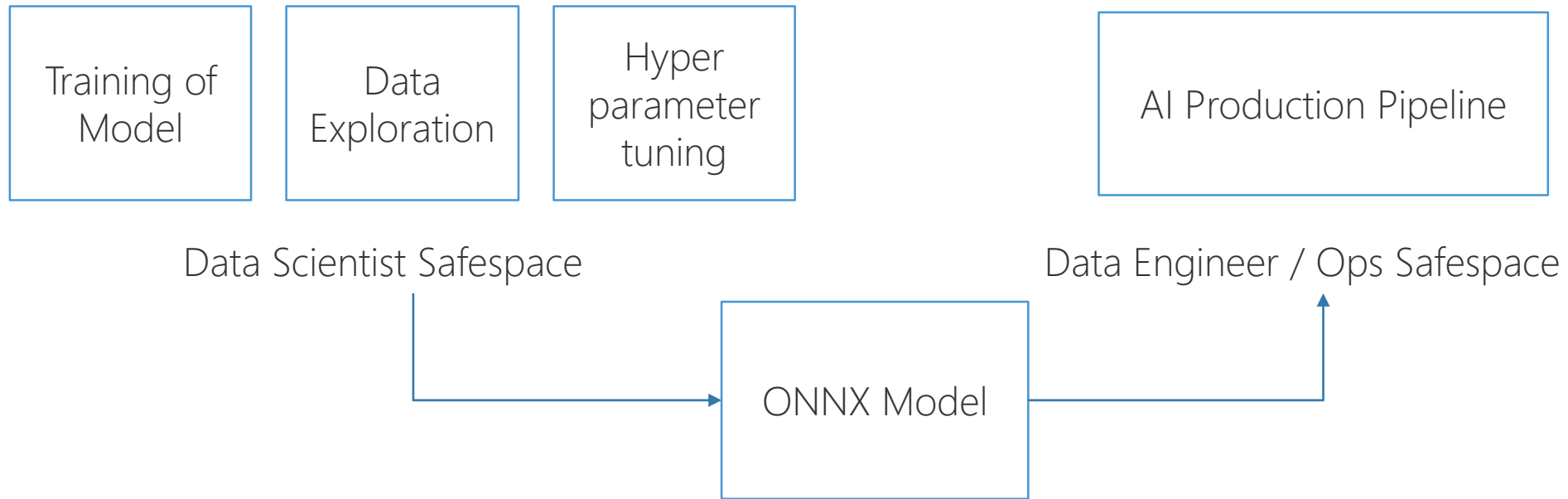


ONNX is the Conway interface between Data Scientist and Data Engineer

Any organization that designs a system will produce a design whose structure is a copy of the organization.

— Melvin E. Conway

Keeping safespaces between teams, with a well defined interface



ONNX simplify AI and makes it more Unix like

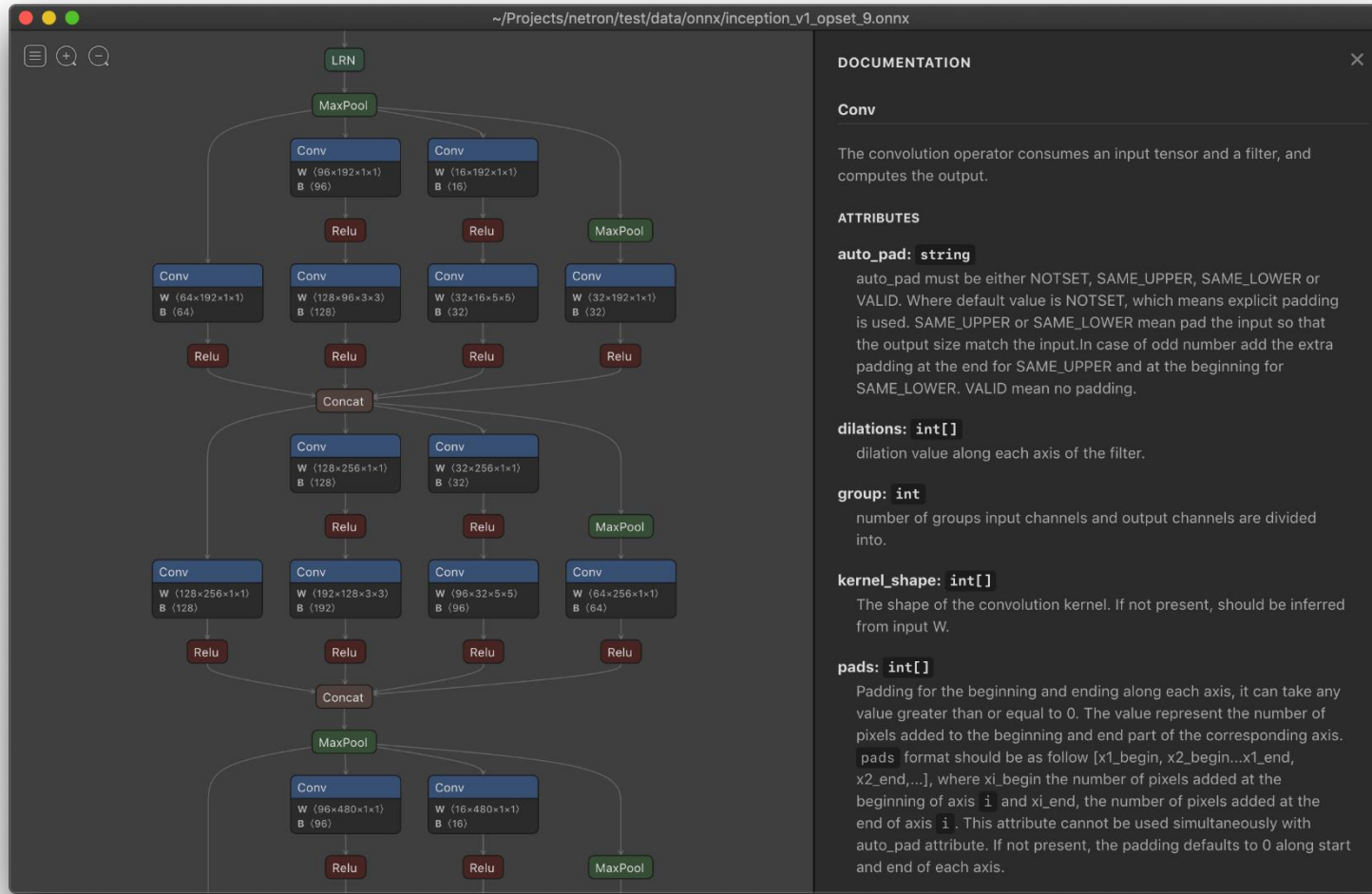
Write programs that do one thing and do it well.

Write programs to work together.

Write programs to handle text streams, because that is a universal interface.

- Unix Philosophy

Open format enables new open MLOps tools



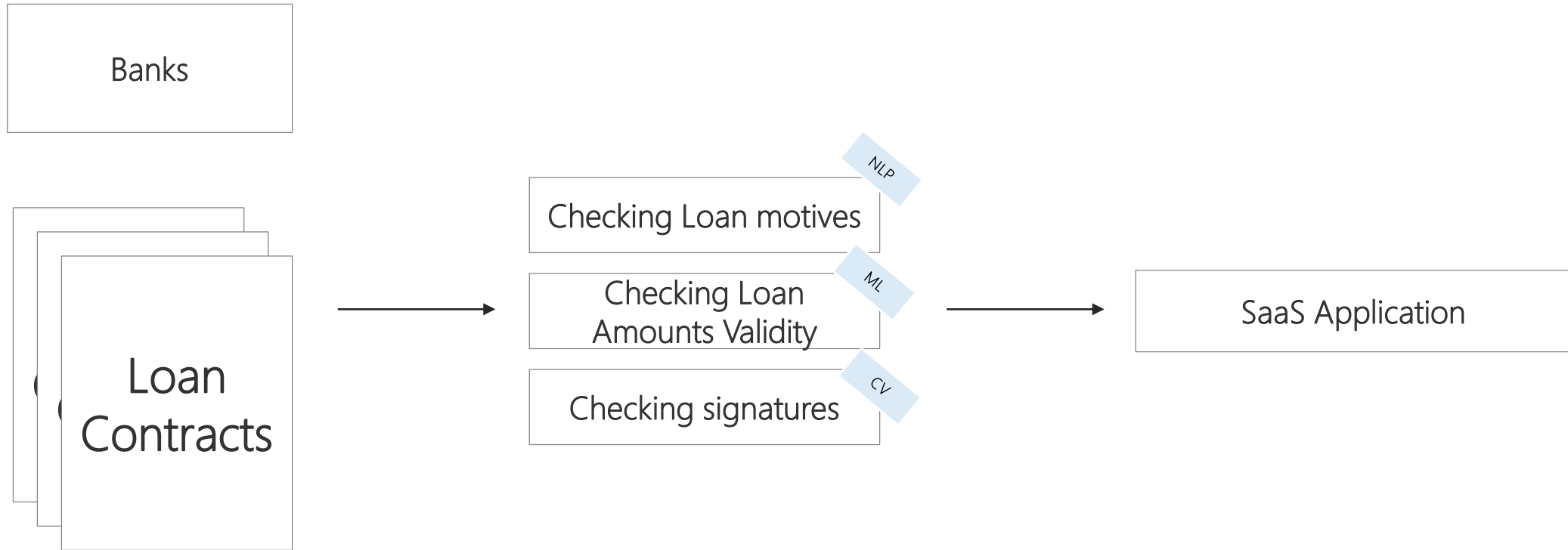
Key Takeaways

- ONNX as interface between:
 - Softwares
 - Hardwares
 - Teams: Data Scientist and Data Engineer

- With other nice features such as:
 - Simpler to run than frameworks
 - Open format -> Extensible

- Current edge cases:
 - Ecosystem is still pretty young.
 - Maybe a bit over sofiscated for small POCS / MVP.
 - Maybe a bit over sofiscated for ML/DL research.

Annex Case Study: A PDF Analyzer using AI



DATA SCIENTIST SCOPE

SWE/DATA ENGINEER/OPS SCOPE