

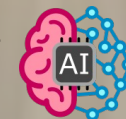
MedComNet'21

Panel Discussion, June 17th 2021
Network Intelligence for the future

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Huawei R&D in a nutshell



- ~15% of revenue re-invested in R&D
- ~30/70% long/short-term split
- ~2000 researchers in European Research Institute (ERI)
- ~150 researchers in Paris RC
- ~30 network researchers (aka DataCom Lab)



What people smarter than me say about ML+networks

MARCH 2021
WED 24
theNetworking
Channel
<https://networkingchannel.eu/>

panel discussion

The network will be
programmed by many,
operated by a few

Nick McKeown – Stanford University

With a panel of graduate student discussants
from around the world.

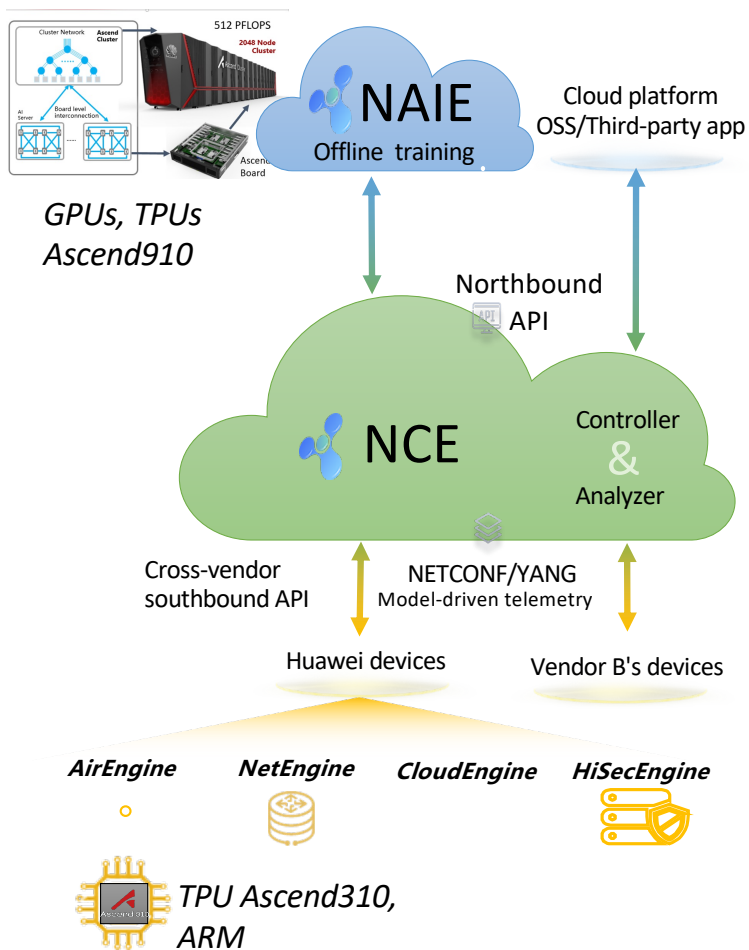


« Machine learning is very good at understanding and predicting
the behavior of systems we do not understand [...] but networking is mostly about
implementing something according to a “model” we already know »

<https://www.youtube.com/watch?v=-cvNw1g5kJc>

To Provoke : Should we continue to only pursue
a bottom-up approach for networking?

Network AI in Huawei

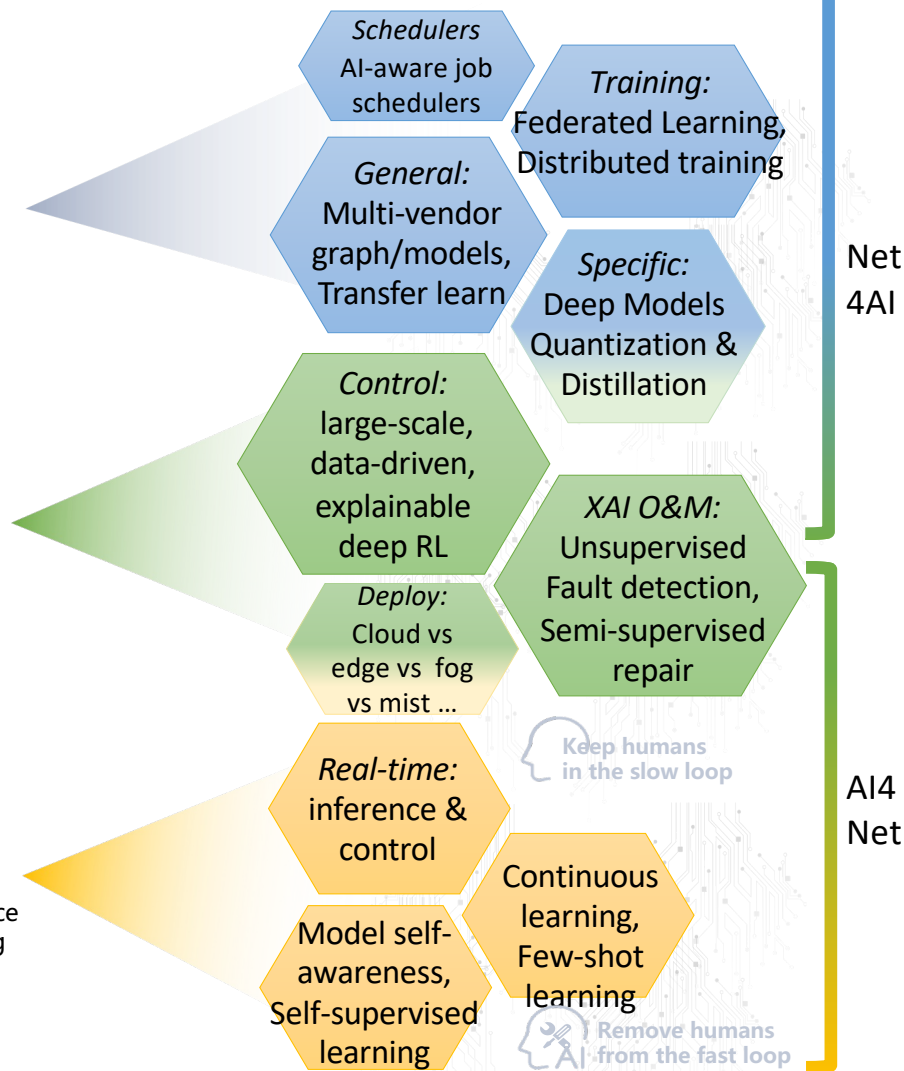


iMaster^{NAIE}
Training, data aggregation, and model generalization

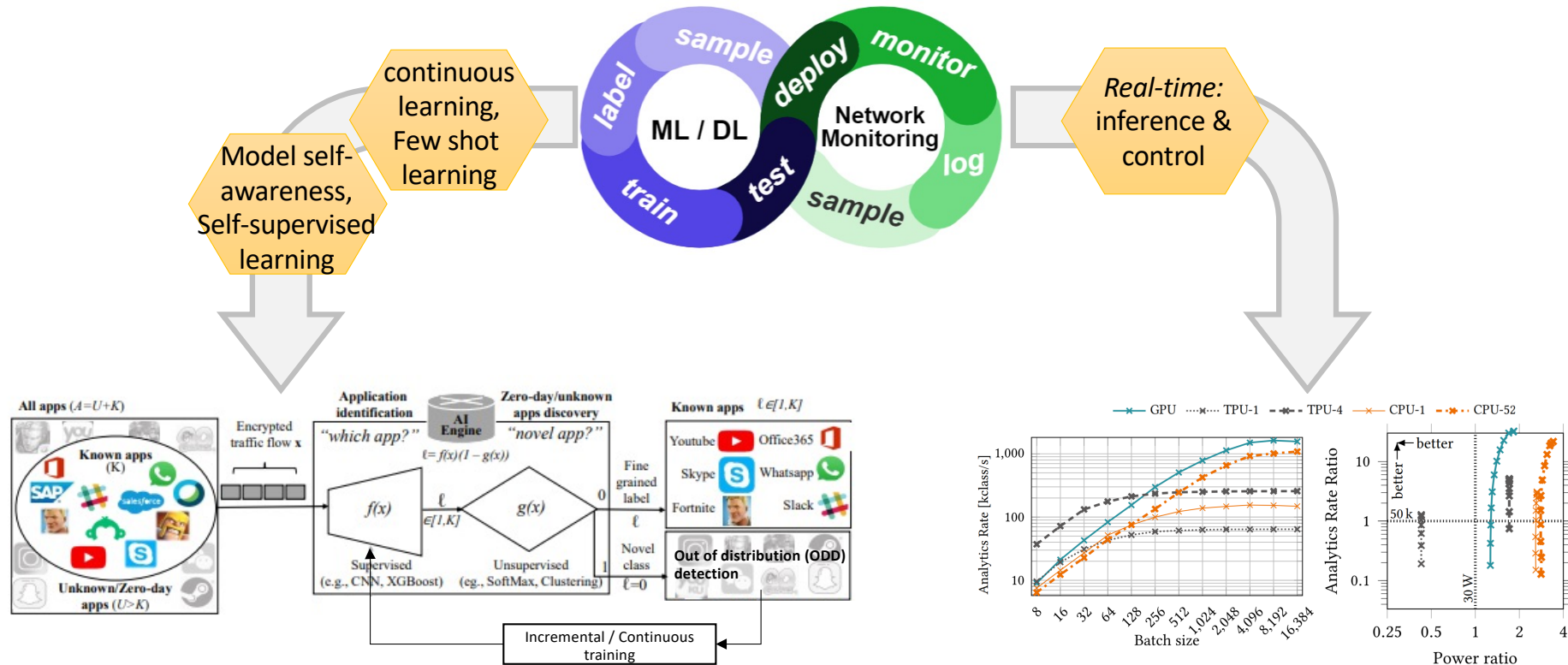
iMaster^{NCE}
Network-wide analysis, inference & closed-loop optimization

Engines
Measurement, edge inference & real-time decision-making

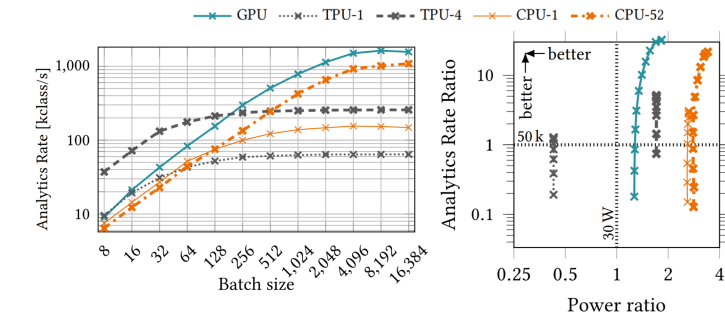
Opportunity & challenges



The future: networks empowered with data-driven decisions



- A First Look at Class Incremental Learning in Deep Learning Mobile Traffic Classification (TMA'21)
- Deep Learning and Traffic Classification: Lessons learned from a commercial-grade dataset with hundreds of encrypted and zero-day applications (arXiv:2104.03182)



- Fenxi: Deep-learning Traffic Analytics at the Edge (SEC'21)

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Thanks



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