

ETSI Summit on Artificial Intelligence

Sessions' Summary

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Closing remarks

04. April. 2019

Session 1 : Artificial Intelligence Today

Session Chair : Dirk Weiler, ETSI Board Chairman, Nokia

✔ Highlights of the presentations

- ✔ AI, starting in 1950, using advances in Hardware (centralized/distributed/decentralized), μ -processors and SW
- ✔ Now applied to many different areas, data centres, healthcare, automation in industry and can be found in most aspects of modern life
- ✔ Different types of AI: Narrow AI , General AI, Machine and Deep Learning, incorporating human intelligence
- ✔ Machines won't take over humans but give us back free time, by performing complex and mundane tasks on our behalf
- ✔ AI helps managing complexity and providing the "Zero X" experience
- ✔ EU is addressing AI in many ways, e.g. HL Expert Group, AI Alliance, coordinated plan, Digital Europe plan

✔ Potential Issues raised

- ✔ Challenges in standardization, Trustworthiness, Ethics and security

Session 2 : AI in the Telecommunications industry

Session Chair : James Crawshaw, Heavy Reading

- ✓ Highlights of the presentations and panel “*The Future of the Telecom Companies Business with AI*”
 - ✓ AI is being implemented in a federated fashion across multiple telecom systems (access, transport, core, cloud, management, orchestration, business support systems).
 - ✓ ETSI Experiential Networked Intelligence group has developed numerous use cases and is working on several proof of concepts for AI in network operations and management.
 - ✓ Need for "circuit breakers" in AI-automated processes; keep a human in the loop so someone takes responsibility (scapegoat).
 - ✓ Beware of bias and discrimination in data sets used to train AI algorithms. Also beware of low quality data (garbage in, garbage out). AI is essential for turning Data into Value.
 - ✓ Need for transparency and explainability to engender trust in AI.
Also need for consumer data privacy to be maintained.

Session 2 : AI in the Telecommunications industry

✔ Potential Issues raised

- ✔ A major challenge is to get data scientists and domain experts to work effectively together.
- ✔ Another challenge is to enable cooperation between operators and their multiple vendors to get consistent data sets.

✔ Way forward and potential actions

- ✔ We should standardize the interfaces between AI systems (for interoperability), not the AI systems themselves.

Session 3 : The Role of AI and Machine Learning in Industry 4.0 and Manufacturing



Session Chair : Jochen Friedrich, ETSI Board Member, IBM Europe

- ✔ Digitalisation and AI are disrupting the entire customer value chain
- ✔ Partnering is key to accelerate the process of adoption AI technologies
- ✔ AI systems need to be trained properly and ways are required to effectively train AI systems to customer needs
- ✔ Combining physics with AI is the challenge faced by industry – diagnostics already works well, next step is moving towards “acting” and “problem solving”

Session 3 : The Role of AI and Machine Learning in Industry 4.0 and Manufacturing



- ✔ Research on AI has been done for a long time, AI is now increasingly applied in industry, but we are still at the early steps here
- ✔ It is important to start playing with it now – we have no time to wait
- ✔ Standards can be of help both in contexts of technical regulation and for enabling interoperability around AI
- ✔ Don't treat AI different from other technologies, no special standards for AI are required.
- ✔ Possible areas for standardisation may be around interchange formats for ML Algorithms, explainable AI, and on the horizontal level
- ✔ AI can play a key role in supporting policy objectives, e.g. differentiating between personal and non personal data

Session 4 : Challenges and Opportunities of Using AI

Session Chair : Neviana Nikoloski, ETSI GA Chair, Phonak Communications AG

- ✓ Highlights of the presentations and panel *“New Opportunities – Standards for AI, Cooperation and the Way Forward”*
 - ✓ *The quality of the learning / training and the data is key to obtaining good results from AI, infected data can give dangerous results*
 - ✓ Beware of bias and discrimination in data sets used to train AI algorithms.
 - ✓ *There can be no trusted AI in business without considering fairness, explainability, transparency, and adversarial robustness*
 - ✓ *Applying AI in any domain will require us to consider ethical, societal and trustworthiness issues carefully before allowing full AI autonomy*
- ✓ Potential Issues raised
 - ✓ *Badly programmed AI or AI that uses sub-optimal data can reproduce incorrect results*

Session 4 : Challenges and Opportunities of Using AI



- ✓ Way forward and potential actions
 - ✓ *AI is still in its infancy and before making the next big steps it is important to put in place minimum standards to ensure a structured evolution*
 - ✓ We need standards to ensure interoperability, standardized terminology and semantics,
 - ✓ We need standards on horizontal levels over vertical markets
 - ✓ Potential need for standard for interchange format for machine learning models (transfer learning) to interchange algorithms
 - ✓ Need for standards that ensure adaptive, agile governance of the system
 - ✓ Need for piloting/testing
 - ✓ Need for a Trustworthy AI Framework
 - ✓ Need for "certification of AI"