7th SG13 Regional Workshop on "Standardization of Future Networks towards Building a Better Connected Africa"

Initial Use case for Artificial Intelligence (AI) & Machine Learning (ML) from Developing Countries

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AFRICA INTIAL USE CASES FOR AI/ML

- African countries which participate in SG 13 have developed an initial list of possible use cases for AI/ML for the consideration of the Focus Group under SG 13.
- Some African countries have started using AI/ML in some components of their networks. A list of such use is also included.

Initial Use cases list

AREA	LISTED USE CASES
Food Security	• Pest Control • Quality Control • Enviromental sensing (Temperature, Humidity, toxicity levels) • Stock control (Quantity) • Yield prediction • Disease control
E-health	• Diagnostic support • ML based geriatric support • Prescription management • Operations • Treatment

Initial Use cases list

AREA	LISTED USE CASES
Agriculture	• Soil fertility • Soil conditions • Soil suitability with crop to be grown • Irrigation control & Management • Cultivation automation • Animal Management • Animal slaughtering • Animal meat processing • Crop storage
Farming	• Farming info systems • Far Autonomous (tractors, irrigation, sprayers, milking etc) • Weather forecasting • Disaster prediction • Disaster recovery

Initial Use cases list

AREA	LISTED USE CASES
Mineral Resource Management	• Mineral resources information • Mineral Resource presence (Quality & Quantity) • Mineral Resource Mapping
Education	• Intelligent class rooms • Intelligent translation • Assistance to people with multiple, complex and simple disabilities • Lecturing, Tutoring and teaching
Energy Saving	• Auto sensing • Implementation of energy saving operations • Smart Grids

Initial Use cases list

AREA	LISTED USE CASES
Public utilities	• Public utility Management • Maintanance • Demand forecast • Leakage detection and repair • Auto swtching
Environement	• Change prediction • Change tracking • Repairing • Information gathering • Information processing and analysis • Detection (Emmissions, Radiotion)

Initial Use cases list

AREA	LISTED USE CASES
Water conservation	• Ground water mangement • Intelligent Water Distribution • Distribution line fault predition • Contamination
Climate change	• Change prediction • Change tracking • Weather forecast • Repairing • Information gathering • Information processing and analysis
Tourism & Wildlife protection	• Track animal healtrh and survival • Track animals for torism • Track animals for relocation and migration • Keep stock of animals • Track dangerous elements in their environment including poachers

Initial Use cases the Tunisian Cases

- Tunisia is ranked 54 in the world by the 2019 Government AI Readiness Index (Oxford Insights and the International Development Research Center (IDRC)
- Tunisia is one of the top 5 African governments in addition to Kenya, Mauritius, South Africa and Ghana (Tunisia is ranked 2).
- Since April 2018, Tunisia has started a process to develop a national AI
- Tunisia's Gov't created a Task Force to oversee the project and a Steering Committee to produce the strategy.
- 20 enterprises, founded or co-founded by Tunisian experts, have already started their activities in the AI/ML domain.
- These enterprises develop and deploy solutions to customers in Tunisia and abroad

Initial Use cases the Tunisian Cases

Enterprise/startup	Activity/Use case
Seabex	Development of intelligent systems to improve agricultural production by rationalizing the use of resources, water, fertilizers and energy
iFarming	Development of the “Phyt’eau” program, which is an intelligent irrigation program using data on Soil Moisture, Air Temperature, Wind Speed and Sap Voltage in Leaves in order to decide on the best time and quantities for the irrigation in real time
InstaDeep	Delivery of AI-powered decision-making systems for Enterprises to tackle the most complex challenges across a range of industries and sectors (mobility, logistics, energy and

Initial Use cases the Tunisian Cases

Enterprise/startup	Activity/Use case
Hexastack	Providing a solution to create and manage chatbots
Enova Robotics	Designing, manufacturing and marketing mobile robots in the field of security, health and logistics
Novelti	Development of IoT products for the localization of indoor robots and educational children's games to encourage them to move
Paypos	Development of innovative electronic banking solutions and digitalization of compliant banking and financial services (PCI-DSS, EMV ...).

Initial Use cases the Tunisian Cases

Enterprise/startup	Activity/Use case
Majesteye	Providing predictive analytics solutions that enable customers to move to a data driven business model
Dataperformers	Allowing account managers, Business developers and analysts in financial institutions to search, assess and predict any organization traction instantly Offering an AI-based inspection system to detect any anomalies or defects in manufacture
Koïos	Development of “Olivo” which is an application to centralize and digitize the entire insurance lifecycle. It is used by consumers, brokers and insurance companies to guide them through

Initial Use cases the Tunisian Cases

Enterprise/startup	Activity/Use case
GEWINNER	Development of "MOOVOBRAIN" which is an invention for people with reduced mobility who can not use their upper limbs. It is a control system based on artificial intelligence, which works by thinking or by voice command depending on the user's choice.
ICOMPASS	Measuring perceived opinion on social networks and others with the generation of real-time reports provided by a Deep Learning model. The model includes Arabic and African dialects.
Tunisian telecom operators and FSI	Use AI solutions in their marketing and planning activities. This helps to segment their customers, understand their needs, identify target markets and customers, interact directly with them and propose targeted offers. They have also developed chatbots to intervene in the pre-sale and after sale activities.

Questions for us

- If ML is Machine Learning then are all African languages gong to be included or taken care of?
- AI/ML must use data in fact much data, where are the serves, processors, going to be located, outside Africa or in each country?

Conclusion

- There are more possible Use Cases which need to be listed for further development and inclusion
- AI/ML will be helpful in many Developing countries' situations
- Like Tunisia, other Developing countries' need to start the policy development
- Like Tunisia encourage expert and enterprises to start using AI/ML
- Developing countries' need to prioritize participation in AI/ML studies and activities

END

THANK YOU FOR ATTENTION