10-year Vision

- Provide fully automated and assured end-to-end network and service life cycle management

- Support a myriad of IoT services (e.g., healthcare, transportation, smart energy, smart cities, smart industry, sustainable agriculture, gaming/entertainment) offered by service providers and verticals

- Deliver reliable connectivity, low latency, and high bandwidth services driven by AI/ML analytics

Scope

- Consider application of AI/ML to all layers of network stack – Physical to Application Layer

- Explore cross-layer optimization using AI/ML

- Identify and address range of options from monitoring, to learning to actuation, while considering aspects of security and reliability that run through all layers

- We believe AI/ML will impact and interact with almost all the other Future Network Working Groups

Today's Landscape

- Current consensus is that AI/ML has a great potential for networking applications

- The networking field itself provides rich and challenging problems for the AI/ML community, with application of algorithms ranging from passive supervised learning to active reinforcement learning

- However, concerns related to model interpretability, data privacy, algorithm adversarial attacks have slowed AI/ML adoption in the networking area

Top Needs for 10-year Vision

- Need for data availability and standard use cases for testing and experimentation, as is the case in other fields such as image processing and natural language applications

- Need approaches that integrate networking domain knowledge with AI/ML algorithmic solutions for scalability and reliability

- Need for algorithms with high sample efficiency to deal with limited data sets and requirements for fast control loops

- We need to close gap for interpretability and trust

- Vulnerability and susceptibility to adversarial attacks

- Role of standardization

Next Steps

- Challenges and Solutions to Meet Needs
- Continue to expand group membership
- Host periodic Working Groups Meetings
- Work on the AI/ML White Paper
- Bring Your Research Ideas, Talks to discuss in the meeting
- AI/ML Workshops, Conferences
- AI/ML Webinars and Podcasts
- Industry and Standards Engagement

Cross Team Meeting Schedule for June 17 and 18

Please contact working group co-chairs for WebEx link if you are interested to attend cross team meetings

Contacts: AI/ML Working Group Co-Chairs

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June 17

Start Time 8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Apps & Svcs AI ML				Apps & Svcs Deployment		EE Hardware	Apps & Svcs EE		EE Deployment	
			EAP Massive MIMO	EAP Security		EAP Standards	EAP Testbed			
	Satellite Standards	Satellite Testbed		Massive MIMO Hardware		Massive MIMO Deployment	Massive MIMO Standards			Deployment CTU
				Standards CTU	Sys Opt CTU		Security Sys Opt		CTU Testbed	Sys Opt Testbed
				Satellite Security		Satellite AI ML				
			Security AI ML							

June 18

Start Time 8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
	Apps & Svcs Satellite			AI ML EAP	Apps & Svcs EAP			Apps & Svcs Security		Apps & Svcs Sys Opt
	AI ML Massive MIMO				AI ML CTU	EAP EE		EAP Deployment		
					Security Testbed	Standards Testbed	Standards Security		EE Sys Opt	
								AI ML Testbed		

Get involved!

Working Group Members

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If you would like to join the working group please send mail to:

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QUESTIONS?