



Network Intelligence

Emerging Technology Initiative (NI-ETI)

ETI Network Intelligence

- **New** community and initiative focused on Network Intelligence
 - Approved by IEEE ComSoc on December 2017
 - It inherits from TCAC – Technical sub-Committee on Autonomic Communications

Mission

To support and endorse research in the domain of artificial intelligence for future **softwarized** and **sliced** networks

The advent of the emerging networks, massively “softwarized” and “sliced” require and are the opportunity to embed of the intelligence in the network.

Network intelligence will allow:

- Faster deployment (from months down to minutes)
- Continuous provisioning in line with the dynamic nature of network functions subject to up and down scaling
- End-to-end orchestration to ensure coherent deployment of IT and network infrastructures and service chains for example
- Ensure resiliency of networks and service availability
- Data fusion based management
- Etc.

Officers

- **Chair** | Imen Grida Yahia
- **Vice Chair** | Mohamed Faten Zhani
- **Technical Program Chair** | Noura Limam
- **Standards Liaison** | Laurent Ciavaglia
- **Secretary** | Weverton Cordeiro

Topics

- Declarative policies (Intent) for orchestration and management
 - including Natural language processing for service deployment, change and assurance
- Learning techniques
 - supervised, unsupervised and reinforcement learning (forecasting, clustering and classification techniques) for resilient network
- Optimal resource allocation and placement and for network action recommendations
- Knowledge base
 - graph database and advanced data mining techniques to ensure coherency of emerging networks (SDN, NFV, cloud and 5G)
- Autonomic for software networks
- Self-configuration, self-optimization, self-healing and self-protection in programmable and software-defined networks
- Self-optimization for dynamic controllers and virtual network functions placement
- Policy-based management, including imperative, declarative (intent), and other paradigms
- Learning and reasoning techniques for programmable networks
- Data analytics and machine learning for autonomic management
- Autonomic based service lifecycle management and orchestration
- Autonomic resource allocation and configuration in virtualized infrastructures
- Adaptive scheduling in cloud computing environments
- Other topics as within the special track on autonomic management of IM2017

Participation

- Open to everyone willing to actively participate in the ETI activities
 - Interested? contact the chairs!

More information ?

- NI Website: <http://ni.committees.comsoc.org/>
- NI Mailing List:
 - etini@comsoc.org
 - To subscribe to the mailing list, please contact NI officers

Some ongoing activities

- **1st International Workshop on Network Intelligence (NI)**
 - Co-located with ICIN conference, 19-22 February 2018, Paris
<https://www.icin-conference.org/NI2018/NI2018.php>
- **3rd International Workshop on Management of 5G Networks (5GMAN)**
 - Co-located with NMOS 2018 conference, 23-27 April 2018, Taipei
- **AI Net 2018 Conference**
 - Co-located with MPLS+SDN+NFV conference, 10-13 April 2018, Paris
<http://www.uppersideconferences.com/ainet/index.html>
- **Standards areas where members contribute: IETF/IRTF, ETSI, IEEE...**
- **Future Special Issues in IEEE ComSoc journals and magazines**
 - Call for Papers on *Artificial Intelligence and Machine Learning for Networking and Communications*:
<https://www.comsoc.org/jsac/cfp/artificial-intelligence-and-machine-learning-networking-and-communications>

Thank You