



Technical Committee on
Cognitive Networks (TCCN)

**SIG in AI and Machine
Learning in Security**

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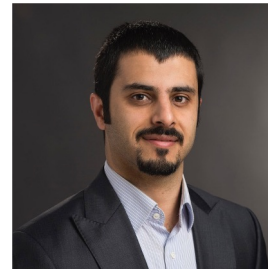


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Introduction to the AIMLSec-IG

- Currently about 468 members in LinkedIn
- To join AIMLSec-IG, use the LinkedIn group:
 - http://www.linkedin.com/groups?home=&gid=5070076&trk=anet_ug_hm
 - The group is also searchable under the name of IEEE Special Interest Group on AI and ML in Security in LinkedIn.
 - You can also send an email to us

Virtual Seminar Series

- Started virtual seminars when traveling was restricted due to COVID
- Inaugural Speaker: **Prof. Vincent Poor** (Nov, 2020)

- ***Deep Convolutional Neural Networks for Device Identification*** – Prof. Kaushik Chowdhury, Northeastern University, USA. December 16, 2020 at 9AM ET.
[\[Abstract and Author Bio\]](#) | [\[Registration\]](#) | [\[Slides\]](#) | [\[Recording\]](#)
- ***Physical Layer Security in Wireless Networks*** – Prof. Vincent Poor, Princeton University. November 17, 2020 at 9AM ET.
[\[Abstract and Author Bio\]](#) | [\[Registration\]](#) | [\[Slides\]](#) | [\[Recording \(Password: %#=&2uej\)\]](#)

Virtual Seminar Series - 2021

- **Open Set Wireless Transmitter Authorization: Deep Learning Approaches and Practical Considerations**– Prof. Danijela Cabric, University of California, Los Angeles, USA. November 19, 2021 at 11AM ET.
[[Abstract and Author Bio](#)] | [[Registration](#)] | [[Slides](#)] | [[Recording](#)]
- **Brainstorming Generative Adversarial Networks (BGANs): Framework and Application to Wireless Networks**– Prof. Walid Saad, Virginia Polytechnic Institute and State University, USA. October 22, 2021 at 10AM EDT.
[[Abstract and Author Bio](#)] | [[Registration](#)] | [[Slides](#)] | [[Recording](#)]
- **Federated Learning in Unreliable and Resource-Constrained Cellular Wireless Networks**– Prof. Ekram Hossain, University of Manitoba, Canada, May 26, 2021 at 11AM EDT.
[[Abstract and Author Bio](#)] | [[Registration](#)] | [[Slides](#)] | [[Recording](#)]
- **Secure Code Execution on Untrusted Remote Devices** – Prof. Gene Tsudik, UCI, USA. April 28, 2021 at 1PM EDT.
[[Abstract and Author Bio](#)] | [[Registration](#)] | [[Slides](#)] | [[Recording](#) (Password: deMMW*E2)]
- **Adversarial Machine Learning for Wireless Security in 5G and Beyond** – Dr. Yalin Sagduyu, Intelligent Automation, Inc. (IAI), USA. March 26, 2021 at 10AM ET.
[[Abstract and Author Bio](#)] | [[Registration](#)] | [[Slides](#)] | [[Recording](#) (Password: +b^HF3CA)]
- **A Quick Look at New Risks Facing Wireless Systems** – Prof. Wade Trappe, Rutgers University, USA. February 25, 2021 at 10AM ET.
[[Abstract and Author Bio](#)] | [[Registration](#)] | [[Slides](#)] | [[Recording](#) (Password: %DJ3BF4^)]
- **AI and Machine Learning in Spectrum Sharing Security** – Prof. Rose Qingyang Hu, Utah State University, USA. January 29, 2021 at 10AM ET.
[[Abstract and Author Bio](#)] | [[Registration](#)] | [[Slides](#)] | [[Recording](#) (Password: #+v4rh9V)]

Virtual Seminar Series - 2022

- ***Securing and Optimizing Wireless Systems with AI-Native & Data-Driven Wireless Signal Processing in the Physical Layer*** – Dr. Tim O’Shea, CTO and Co-Founder at DeepSig Inc and a Research Assistant Professor at Virginia Tech, USA. December 13, 2022 at 10AM ET.
[\[Abstract and Author Bio\]](#) | [\[Registration\]](#) | [\[Slides\]](#) | [\[Recording\]](#)
- ***Blockchain Technology and its applications to the Internet of Things*** – Prof. Bhaskar Krishnamachari, University of Southern California, USA. November 11, 2022 at 11AM ET.
[\[Abstract and Author Bio\]](#) | [\[Registration\]](#) | [\[Slides\]](#) | [\[Recording\]](#)
- ***AI and Privacy in Collaborative Spectrum Sharing: Perspectives from the Spectrum Collaboration Challenge and Beyond*** – Prof. John M. Shea, University of Florida, USA. April 27, 2022 at 10AM ET.
[\[Abstract and Author Bio\]](#) | [\[Registration\]](#) | [\[Slides\]](#) | [\[Recording\]](#)
- ***6G for Information Security and Information Security for 6G*** – Prof. Aylin Yener, The Ohio State University, USA. March 30, 2022 at 11AM ET.
[\[Abstract and Author Bio\]](#) | [\[Registration\]](#) | [\[Slides\]](#) | [\[Recording\]](#)
- ***Machine Learning Classification of RF Signals over Congested and Contested Spectrum: Algorithms and Experimentation*** – Prof. Marwan Krunz, University of Arizona, USA. February 23, 2022 at 11AM ET.
[\[Abstract and Author Bio\]](#) | [\[Registration\]](#) | [\[Slides\]](#) | [\[Recording\]](#)

Virtual Seminar Series - 2023

- ***5G and Future G Wireless Security*** – Dr. Arup Bhuyan, Idaho National Laboratory, USA. January 25, 2023 at 11AM ET.
[\[Abstract and Author Bio\]](#) | [\[Registration\]](#) | [\[Slides\]](#) | [\[Recording\]](#)

Topic or Speaker Suggestions: Please email us

YouTube Channel

- The YouTube Channel for the AIMLSec Webinar series is up and running.
- <https://www.youtube.com/channel/UCsDvVnQCC5QclwpyL7J1FFA>

The screenshot shows the YouTube channel page for 'AI ML Security', which has 29 subscribers. The channel is part of the IEEE Communications Society Technical Committee on Cognitive Networks (TC-CN) and focuses on AI and Machine Learning in Security. The page displays a grid of video uploads:

- RF Authorization** (1:35:44) by Prof. Danijela Cabric's Talk, November 19, 2021. 159 views • 5 months ago.
- Federated Learning** (1:26:07) by Prof. Ekram Hossain's Talk, May 26, 2021. 63 views • 5 months ago.
- Applications of Embedded Cyber-Physical Systems** (1:18:53) by Prof. Gene Tsudik's Talk, April 28, 2021. 26 views • 5 months ago.
- Existing Distributed GAN Solutions** (49:24) by Prof. Walid Saad's Talk, October 22, 2021. 66 views • 5 months ago.
- Machine Learning Evolution** (1:28:50) by Dr. Yalin Sagduyu's Talk, March 26, 2021. 48 views • 5 months ago.
- Wireless wasn't meant for what we now ask** (1:03:15) by Prof. Wade Trappe's Talk - February 25, 2021. 11 views • 5 months ago.
- Security and Privacy Issues in Spectrum Sharing** (1:37:13) by Prof. Rose Hu's Talk - January 29, 2021. 19 views • 5 months ago.
- Physical Layer Security in Wireless Networks** (1:21:58) by Prof. Kaushik Chowdhury's Talk - December 16, 2020. 37 views • 5 months ago.
- Physical Layer Security in Wireless Networks: An Information Theoretic Perspective** (1:19:26) by Prof. Vincent Poor's Talk - Nov 17, 2020. 16 views • 5 months ago.

Rising Star Symposium Series

- New initiative from the group.
- **Motivation**
 1. An opportunity for the community to hear from emerging scholars about the latest research and for the emerging scholars (senior PhD candidates and postdocs) to present their work to a border audience.
 1. The talks are intended to foster more mentorship, collaboration, and employment opportunities.
 1. The 45-minute talks are encouraged to be prepared in the form of “job talk” and interactively engage with the border audience.

Rising Star Symposium Series

- [Nov 2023] ***Absolute Security in Terahertz Wireless Links*** - Dr. Chia-Yi Yeh, Massachusetts Institute of Technology (MIT) and Brown University.
- [Dec 2023 Scheduled] ***5G and 4G Coexistence Measurements Using Software-Defined Radio*** - Dr. Nadia Yoza Mitsuishi, National Institute of Standards and Technology, *Date: December 12, 2023.*

Date: December 12, 2023;

Time: 1PM ET

Registration: Please register at

https://gmu.zoom.us/meeting/register/tJMpduivrD8tEtALG_XwSHnYQjyDOUXoYUyr

Other Activities of AIMLSec-IG

- AIMLSec-IG Vice Chair, Prof. Saha, is co-chairing Cognitive Radio and AI Enabled Networks Symposium at ICC 2024
- AIMLSec-IG Chair, Prof. Suba, is an AE for IEEE Transactions on AI
- AIMLSec-IG Chair, Prof. Suba, is an AE for IEEE Transactions on Neural Networks and Learning System (TNNLS)
- AIMLSec-IG Chair, Prof. Suba, is Lead Guest Editor for the Special Issue on “Explainable and Interpretable AI” in IEEE Transactions on AI
- AIMLSec-IG Vice Chair, Prof. Saha, received Best Paper Award in DySPAN 2021
- AIMLSec-IG Vice Chair, Prof. Roy, co-chaired Mobile & Wireless Sensing and Networking at IEEE MSN 2023
- AIMLSec-IG Vice Chair, Prof. Roy, is a member of the organizing committee of MILCOM 2023, CCNC 2024, DySPAN 2024, and SMARTCOMP 2024.
- AIMLSec-IG Vice Chair, Prof. Saha is the workshop chair of DySPAN 2024.
- AIMLSec-IG Vice Chair, Prof. Saha is AE for IEEE Transactions on Cognitive Communications and Networking Journal.
- AIMLSec-IG Vice Chair, Prof. Saha is the editor for TCCN newsletter.
- Group members regularly publish in Cognitive Network as well as Communication and Information System Security Symposiums of both ICC and Globecom
- Group members regularly publish in IEEE Transactions on Cognitive Communications and Networks (TCCN)
- Group members have served as AE for IEEE TCCN