Social Networks TC Meeting
IEEE Globecom 2021

Date: November 17, 2021

Time: 1:00 – 2:00 pm EST

Reminder to Register

- The IEEE ComSoc Technical Committee on Social Networks

- Reminder to write your information in chat:
  - ✓ *your name + affiliation + email*

Social Networks TC Meeting Agenda

- Welcome and Introductions
- Scope of TCSN
- Approval of the ICC 2021 minutes
- TCSN members and recognitions
- TCSN status
- Journal activities
- Volunteers for the SAC tracks in GCs and ICCs
- Newsletter
- Special interest groups (SIGs)
- Awards & IEEE ComSoC Student Competition
- Other discussion topics
- Adjourn

Technical Committee on Social Networks (TCSN)

- TCSN serves as a forum for researchers and technologists to discuss the state-of-the-art, present their contributions, and foster the development of new emerging topical areas in social networks.

- TCSN serves as ComSoc's focal point in the areas of social network, supporting IEEE ComSoc's activities (e.g., ComSoc's journals, magazines, conferences, IEEE standard activities, and the recognition and proposal of candidates) and organizing symposia, workshops, sessions and tutorials at ComSoc conferences.

- Nominating suitable candidates for ComSoc and IEEE awards, proposing distinguished lecturer candidates, endorsing deserving candidates for the election to IEEE Senior Member and Fellow grade.

TCSN Scope

- Formation and evolution of human social networks
- Information propagation and dissemination in human social networks
- Small world phenomenon and its implication in telecommunication networks
- Convergence of telecommunication networks and human social networks
- Social-aware network solutions in wireless and wireline communications systems
- Cross-layer design for social networks and the underlying communications platforms
- AI for communications and networking
- Optimization and protocol design for mobile social networks
- Network graph modeling, measurements, simulations, and experiments
- Analysis of dynamics and trends in the evolutions of social networks
- Analysis and control of belief, influence, and rumor propagations in social environments
- Analysis of social media, trust, and reputation
- Privacy and security in social network
- Social signal processing
- Data mining, machine learning, information retrieval, and artificial intelligence in social contexts
- Infrastructure, platform, protocol design, and optimization for mobile social clouds and social internet-of-things
- Innovative applications in social networks and services for mobile internet, multimedia networks, mobile e-commerce, and cyber-physical systems
- Multidisciplinary and interdisciplinary research on social networks
- New applications and services

Approval of the IEEE ICC 2021 minutes

- IEEE ComSoc Social Networks Technical Committee https://sn.committees.comsoc.org

- Approval of ICC 2021 meeting minutes

- http://site.ieee.org/comsoc-sn/files/2021/11/TCSN-Meeting-Minutes-at-ICC-2021.pdf

- Motion: Burak Kantarci (University of Ottawa, Canada)
  - Second: De-Nian Yang (Academia Sinica, Taiwan)
  - Voting:

TCSN Members

- Any IEEE ComSoc member, who has been active in the TC activities for the past three years, can be a member of the TCSN. Also, it is necessary to subscribe to the TCSN mailing list

- A TC member shall attend (physically present or by teleconference) three or more of the prior six regular scheduled TC meetings for the past three years, cast informed votes on TC business, and be encouraged to assist in the conduct of TC business

- Individuals who are not ComSoc members may participate in TC activities as collaborators

TCSN Members Recognitions

Congratulations to our members for the following recognitions:

- Prof. Burak Kantarci, University of Ottawa, Canada
  - Steering Committee Member, IEEE BlackSeaCom [starting 2022]
  - Steering Committee Chair, IEEE CAMAD [starting 2022]

- Prof. Damla Turgut, University of Central Florida, USA
  - Chair-Elect of the IEEE Technical Committee on Computer Communications (TCCC) (2022-2023)
  - IEEE INFOCOM 2021 Distinguished TPC Member

Invited Talks, DL Lectures, Panels, etc.

Prof. Damla Turgut, University of Central Florida

Invited Talk:

- "Humans, AI, and IoT", at the IoT Connect Symposium, co-located with IEEE Canadian Conference of Electrical and Computer Engineering (CCECE 2021), September 17, 2021.

IEEE ComSoc Distinguished Lectures:

- "Physical and computational modeling of smart homes," Hosts: IEEE Buffalo Section Chapter, Rochester Section Jt. Chapter, and Syracuse Section Jt .Chapter, November 4, 2021.
- "Communication, computation, and privacy trade-off in machine learning for smart environments," Hosts: Atlanta Section, Sacramento Valley Section, New York Section, Central Texas Section, Jamaica Section, Buenaventura Section, November 15, 2021.

Invited Talks, DL Lectures, Panels, etc.

Prof. De-Nian Yang, Academia Sinica, Taiwan
- Optimizing Pandemic Containment for COVID-19 by Social Network Analysis, IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS) , September 2021 [DEP]

Prof. Burak Kantarci, University of Ottawa, Canada
- AI-Backed Security and Resilience for Cyber-Physical Systems, ACM Distinguished Lecture at Ryerson University, Canada 25 October 2021
- AI-Backed Security and Resilience for Cyber-Physical Systems, ACM Distinguished Lecture at Universidade Federal de Minas Gerais, Brazil, 19 August 2021
- Artificial Intelligence-Backed Security and Resilience for Cyber-Physical Systems, Sheffield University (Invited Talk)
- Adversarial Machine Learning-Driven Fake Task Anticipation in Mobile Crowdsensing Systems. IEEE Congress on Intelligent and Service-Oriented Systems Engineering (Invited Talk)
- Empowering Artificial Intelligence Against Adversarial Patterns in the IoT Sensing Systems. Workshop on Wireless Intelligent Secure Trustable Things: bringing IoT and AI together in IEEE 7th World Forum on Internet of Things (WF-IoT), June 2021 [Keynote]
- "AI-Backed Threat Modeling and Defense Strategies in IoT Sensing". IEEE International Workshop on Decentralized AI and Computing on IoT, July 2021 [Keynote]
- "The Role of Artificial Intelligence in Dependable Cyber-Physical Systems" IEEE Computer Society YP Global Congress, 23 October 2021 [Invited Talk]

TCSN Status

- Mail list
  - Currently: 938 members subscribed through mailing list
- Website:
  - https://listserv.ieee.org/cgi-bin/wa?SUBED1=IEEESTC&A=1
- Interaction with members by means of:
  - Mailing list IEEESTC@LISTSERV.IEEE.ORG
- To subscribe
  - https://listserv.ieee.org/cgi-bin/wa?SUBED1=IEEESTC&A=1
- Social media

@IEEEComSoc_TCSN

IEEE ComSoc Social Networks Technical Committee

IEEE ComSoc Social Networks Technical Committee

Journal Activities

- Special Issues
  - IEEE ACCESS (2021)
    - ✓ Collaborative Intelligence for Internet of Vehicles
    - ✓ Guest editors: Celimuge Wu, Soufiene Djahel, Damla Turgut, Sidi-Mohammed Senouci, Lei Zhong
    - ✓ In the process of preparing the SI editorial (~25% acceptance rate)

  - IEEE Trans. on Green Communications and Networking (2021)
    - ✓ Collaborative Intelligence for Green Internet of Things in the 6G Era
    - ✓ Guest editors: Celimuge Wu, Kok-Lim Alvin Yau, Zonghua Zhang, Damla Turgut, Shiwen Mao
    - ✓ Submission deadline: December 10, 2021
    - ✓ Publication: June 2022

Journal Activities

- Special Issues
  - IEEE IT Professional (2021)
    - ✓ Information Hygiene and the Fight against the Misinformation Info-demic
    - ✓ Guest editors: George Loukas, Stephen J. Andriole, San Murugesan
    - ✓ Publication: March 2022

  - IEEE Transactions on Computational Social Systems (2020-2021)
    - ✓ Computational Social Systems for COVID-19 Emergency Management and Beyond
    - ✓ Guest editors: De-Nian Yang, Damla Turgut, Neeli Prasad, etc.
    - ✓ Publication: August 2021

Journal Activities

- Special Issues
  - IEEE Communications Magazine (2020-2021)
    - ✓ Networking Technologies to Combat the COVID-19 Pandemic
    - ✓ Guest editors: Valeria Loscrí, Anna Maria Vegni, De-Nian Yang
    - ✓ Submission Deadline: 1 January 2021
    - ✓ Publication: September 2021

  - IEEE Transactions on Network Science and Engineering (2020-2021)
    - ✓ Healthcare Social Analytics
      - Guest Editors: Ebrahim Bagheri, Fattane Zarrinkalam, Diana Inkpen, Daniel Dajun Zeng, and Christopher C. Yang
      - Submission Deadline: 1 November 2021
    - ✓ Computing and Networking for Cyber-Physical-Social Systems
      - Guest editors: Hai Jiang (Lead), A. B. M. Shawkat Ali, Beniamino Di Martino, and Bernady O. Apduhan
      - Final Accepted Manuscript Due: 15 July 2021

Volunteers for Future Conferences

- ICC/GLOBECOM
  - ICC 2020 Dublin
    - ✓ Rep: Neeli Prasad
    - ✓ 19 submissions, 8 accepted papers (acceptance ration of ~39%)
  - GC 2020 Taipei
    - ✓ Rep: Eirini Eleni Tsiropoulou
    - ✓ 26 submissions (among the top numbers in the SACs), 10 accepted papers (acceptance ration of ~38%)
  - ICC 2021 Montreal
    - ✓ Rep: Damla Turgut
    - ✓ 22 submissions, 9 accepted papers (acceptance ration of ~40%)
  - GC 2021 Madrid
    - ✓ Rep: De-Nian Yang
    - ✓ 54 submissions, 21 accepted papers

Volunteers for Future Conferences

- ICC/GLOBECOM
  - ICC 2022 Seoul
    - ✓ Rep: Abderrahim Benslimane
    - ✓ 25 submissions (review in progress)
  - GC 2022 Rio de Janeiro
    - ✓ Rep: Neeli Prasad
  - ICC 2023 Rome
    - ✓ Rep: De-Nian Yang
  - GC 2023 Kaula Lumpur
    - ✓ Rep: Neeraj Kumar
  - ICC 2024 Denver
    - ✓ Rep: Eirini Eleni Tsiropoulou
  - GC 2024
    - ✓ Rep: Anna Maria Vegni
  - ICC 2025
    - ✓ Rep: ???

Volunteers for Future Conferences

- Goal: increase the number of submissions
  - Update topics in CFP
  - Advertise the CFP to the social media
  - Advertise the CFP to the authors of the previous symposiums
  - Advertise the CFP to the authors of previous ICCs and GCs
  - Regional mailing lists
  - Update TPC members in TCSN (we need to incentivize new people)

TCSN Volunteers Needed

- Information Officers: (volunteers needed and please contact Damla.Turgut@ucf.edu with subject IEEE ComSoc TCSN volunteers)
  - Web: De-Nian Yang (Academia Sinica)
  - Newsletters: Anna Maria Vegni [Twice a year at ICC and Globecom]
  - Membership development: Eirini & Burak
    - ✓ Will continue to work on increasing the membership
    - ✓ We have 900+ members
  - Awards Committee
    - ✓ We need to work on this (To do item)
    - ✓ We need to keep diversity in mind
  - Industry liaison: Charalampos Patrikakis
    - ✓ Industry and other related projects
  - Liaison to ComSoc Standardization Board: Charalampos Patrikakis
    - ✓ Prof. Vincent Chan mentioned that IEEE is collaborating with industry in silicon valley to discuss which topics should be standardized and how to do it.
  - Liaisons to TSCBD: Shui Yu (University of Sidney)
  - Marketing: Neeli Prasad and De-Nian Yang

Newsletters

- Newsletters
  - Twice a year (ICC and Globecom)

- Editors:
  - Issue no. 1: Damla Turgut
  - Issue no. 2: Neeli Prasad
  - Issue no. 3: De-Nian and Damla
  - Issue no. 4: Valeria Loscri and Anna Maria Vegni
  - Issue no. 5: De-Nian, Neeli, and Damla
  - Issue no. 6: De-Nian, Neeli, and Damla
  - Issue no. 7: De-Nian, Neeli, and Damla

Special Interest Groups

- Call for Interest in SIG creation
  - If interested to create other relevant SIG, please contact the TCSN Officers
    - ✓ Scope
    - ✓ Activities
    - ✓ Liaison with other TCs
  - TCSN support on SIG activities
    - ✓ Technically (co-)sponsor workshops and conferences
    - ✓ Promote seminars/talks
    - ✓ Organize special issues in journals

Special Interest Groups

- Call for Interest in Liaison with other TC
  - If interested to serve as liaison with other TCs or other ETIs, please contact the TCSN Officers
  - Objective of liaison
    - ✓Promote joint activities of interest
    - ✓Coordinate initiatives (special issues/tracks in conferences/ workshops)
    - ✓Organize special issue in journals

https://www.comsoc.org/about/committees/technical-committees

SIoA SIG: Social Internet of Anything

SIG Officers

- Chair: Anna Maria Vegni, Roma Tre University, Italy
- Co-Chair: Valeria Loscrì, INRIA Lille, France
- Senior Advisor: A. Benslimane, University of Avignon, France

SIG Scope

The Social Internet of Anything Special Interest Group (SIoA SIG) of the IEEE Technical on Social Networks (SN) promotes research and development in emerging area of social networking applied to communication networks, ranging from traditional IoT networks, including Internet of Vehicles, Internet of Flying devices, Internet of Medical devices, till Internet of People, where social features are relevant and exploitable for communication and networking purposes. Due to this huge application field, not limited to IoT, and since social aspects can find applicability in different fields, we extend the definition of Social IoT to Social Internet of Anythings. In this context, we are aware that new threats can emerge and make the SIoA more vulnerable to cyber attacks. The SIoA will focus on reserach activities on all these aspects. SIoA SIG aims to provide a platform for researchers and practitioners from academia and industry to discuss relevant topics and exchange views on the important issues of SIoA provisioning, social networking and connectivity, social community detection and prediction, social ties and hub nodes for communication networks, cross-layer design and inter-operability between communication networks and social networks. It will also assist the TCSN by organizing and supporting ComSoc-sponsored conferences and workshops, special issues and feature topics of relevant journals.

SIoA SIG: Social Internet of Anything

SIG Topics

The main technical topics of SIoA are the following, but not limited to:

- Social network analysis applied to communication networks
- Security and privacy issues in Social Internet of Anythings
- Connectivity management ruled by social features
- Machine learning for Big Data analytics in social Internet of Anythings
- Integration of social aspects in traditional ad-hoc networks
- Small-world theory applied to Social Internet of Anythings
- Cross-layer design of communication networks and social networks
- Epidemic social network analysis for pandemic contension
- Social networking for contact tracing, location and tracking
- Social Data and multimedia communication and privacy

ComSoc Standardization

- ComSoc standards activities, including standards development and standardization programs development, is be restricted to communications, networking, and related fields, as defined in the scope of the Society and the charters of its Technical Committees

- The ComSoc Standards Development Board (COM/SDB) sponsors standards in communications and networking technologies. These include the technical domains and interests reflected in the scope of ComSoc Technical Communities

- Regular meetings, held via teleconference and WebEx, typically scheduled for 10 a.m. ET on the last Friday of each month

Technical Domains, Committees & Subcommittees

- Ad Hoc and Sensor Networks
- Cognitive Networks
- Communications and Information Security
- Communications Quality and Reliability
- Communications Software
- Communications Switching and Routing
- Communications Systems Integration and Modeling
- Communication Theory
- Computer Communications
- Data Storage
- e-Health
- Green Communications and Computing
- Information Infrastructure and Networking
- Internet
- Multimedia Communications
- Network Operations and Management
- Optical Networking

- Power Line Communications
- Radio Communications
- Satellite and Space Communications
- Signal Processing and Communications Electronics
- Transmission, Access, and Optical Systems
- Wireless Communications
- Emerging Technical Subcommittees:
  - Applications of Nanotechnology in Communications
  - Autonomic Communications
  - Cable Networks and Services
  - Cloud Communications and Networking
  - Human Centric Sensing and Communications
  - Innovation and Standards in Information and Communication Technologies
  - Integrated Fiber and Wireless Technologies
  - Internet of Things
  - Nano-Scale, Molecular, and Quantum Networking
  - Peer-to-Peer Networking
  - Situation Management
  - Smart Grid Communications
  - Social Networks
  - Vehicular Networks and Telematics Applications

Status and Actions

- Working groups and projects are focused mainly on topics related to physics, electronics, radio, and transmission.

- Communication with Periklis Chatzimisios (TCIIN \ TC Chair, contact person / Internet contact person)

- Preparation of application
  - Who
  - What
  - Scope

Information Infrastructure & Networking

The Technical Committee on Information Infrastructure and Networking sponsors scientific activities consisting of interrelated set of technical, policy, and social issues implicit in the development of information infrastructures and supportive technologies to enable global networking. It sponsors papers, discussions, and standards and provides a forum for members to exchange ideas, techniques, and applications, and share experience among researchers.
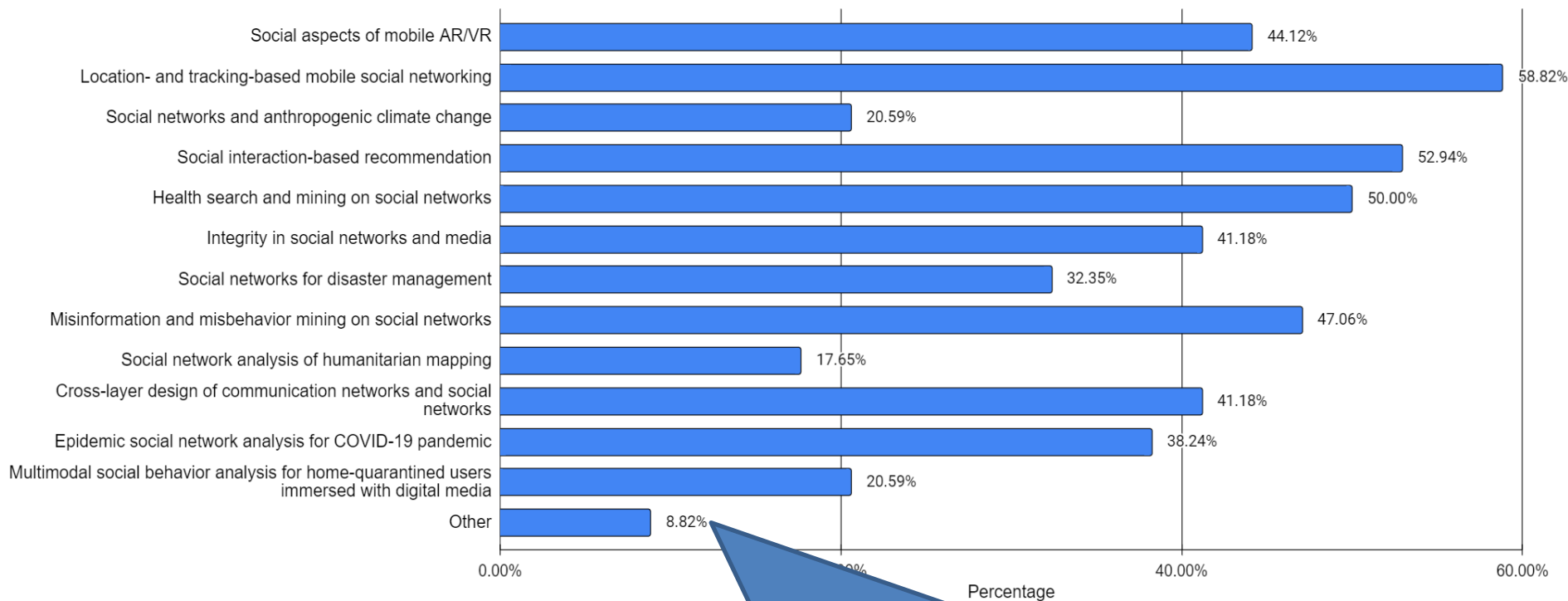
Internet

Proposal

- ActivityPub extension (W3C Recommendation 23 January 2018): decentralized social networking protocol providing a client to server API for creating, updating and deleting content, as well as a federated server to server API for delivering notifications and content

- Standard to represent data of Social Media content and Social Networks in an interchangeable compatible way, avoiding vendor lock-in and allowing users to migrate seamlessly from one SN platform to another, thus giving users actual control over their data

Award(s)

- New awards might need approval by the ComSoc Award Committee

- We need to follow P&P to establish any award
  - Follow the constitution of the procedure, which needs approval by Technical and Education Committee
  - Need to set up the ad-hoc committee to change the procedure
  - New policy has been set

Survey: Promising future technological directions of interest to TCSN

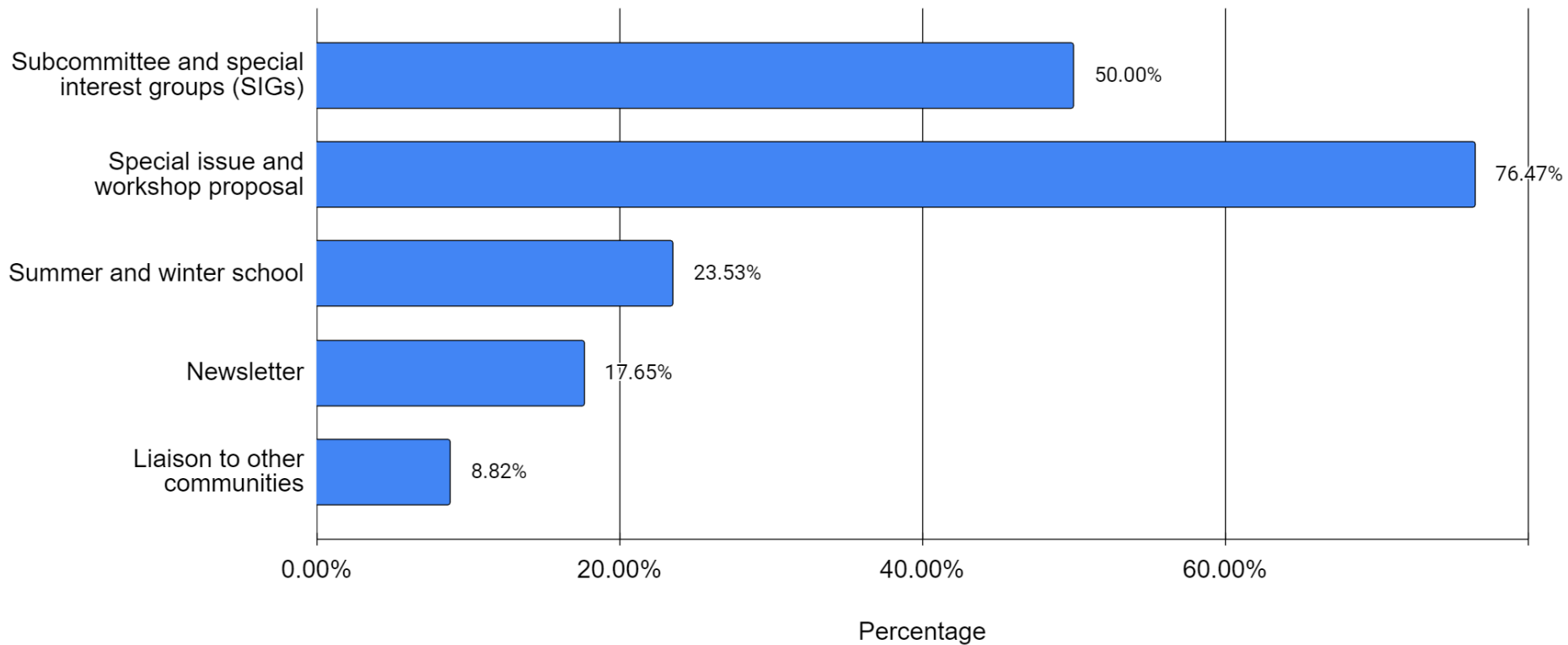**What are the promising future technological directions of interest to TCSN?**

Direction	Percentage
Social aspects of mobile AR/VR	44.12%
Location- and tracking-based mobile social networking	58.82%
Social networks and anthropogenic climate change	20.59%
Social interaction-based recommendation	52.94%
Health search and mining on social networks	50.00%
Integrity in social networks and media	41.18%
Social networks for disaster management	32.35%
Misinformation and misbehavior mining on social networks	47.06%
Social network analysis of humanitarian mapping	17.65%
Cross-layer design of communication networks and social networks	41.18%
Epidemic social network analysis for COVID-19 pandemic	38.24%
Multimodal social behavior analysis for home-quarantined users immersed with digital media	20.59%
Other	8.82%

Percentage axis: 0.00%, 40.00%, 60.00%

Other:
(1) Human behavioral modeling in complex systems
(2) Decentralization, interoperability, data portability
(3) The decentralization of social media

Survey:
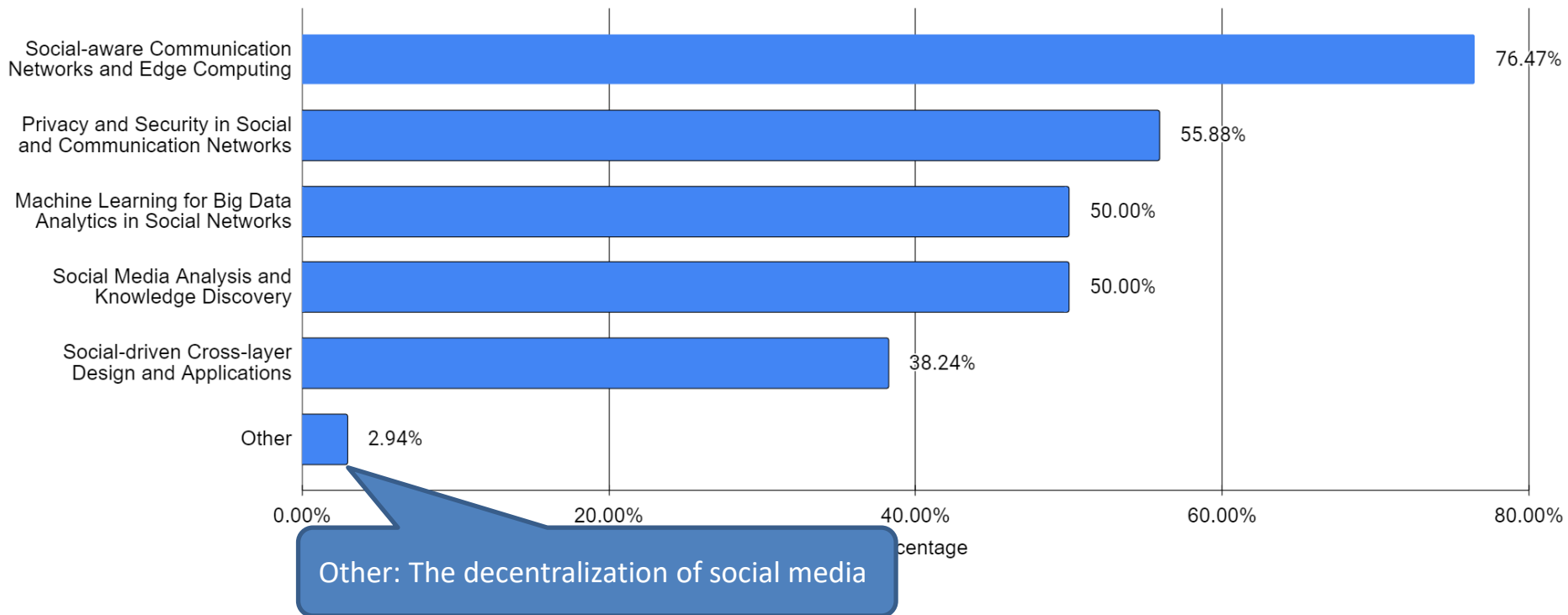# Better TC plans to pursue those directions

What are the better TC plans to pursue those directions?

Survey:
Important research directions for TCSN SIGs

For Special Interest Groups (SIGs), which research directions are important for TCSN?

Research Direction	Percentage
Social-aware Communication Networks and Edge Computing	76.47%
Privacy and Security in Social and Communication Networks	55.88%
Machine Learning for Big Data Analytics in Social Networks	50.00%
Social Media Analysis and Knowledge Discovery	50.00%
Social-driven Cross-layer Design and Applications	38.24%
Other	2.94%

Other: The decentralization of social media

Survey: Current issues and needs of TCSN

- Mis/Dis-information in social networks curbing biases - racial, gender etc. in social networks for instance in targeted marketing
- Decentralization, interoperability, data portability, event detection
- Links to popular applications and also independent efforts for opensource social networks

- Defining the narrow scope of interest for the group, while keeping the broad base/appeal
- A better calibration of social aspects together with technical issues and interaction with pandemic context

- Connection with other TCs to attract more participants

Other Discussion Topics

- Online seminar

- More activities
  - Please put activity announcements on committee web
  - COVID-19 related SI, Chapters, Books, etc.
  - DLs
  - Summer/winter school?
    - ✓ Funding issue
    - ✓ Contact issue
    - ✓ TC can endorse technical sponsorship of international conferences organized by TC members

Other Discussion Topics

- More activities (continued)

  - Workshops etc. at ICC/GC/INFOCOM/CCNC for security/privacy, big data, etc.

  - SI for IEEE journals

  - TC can endorse technical sponsorship of international conferences organized by TC members

TCSN Officers

- Chair: Damla Turgut, Damla.Turgut@ucf.edu
- Vice-Chair: De-Nian Yang, dnyang@iis.sinica.edu.tw
- Secretary: Burak Kantarci, burak.kantarci@uottawa.ca

Next Meeting

- Next TCSN meeting at ICC'22, South Korea. See you then!

Reminder to Register

- The IEEE ComSoc Technical Committee on Social Networks

- Reminder to write your information in chat:
  - ✓ *your name + affiliation + email*

Motion: Burak Kantarci (University of Ottawa, Canada)
Second: De-Nian Yang (Academia Sinica, Taiwan)
Voting:
Thanks for attending and see you in next TCSN meeting at ICC 2022!

ADJOURN & THANK YOUR ATTENDANCE