

Sumudu Samarakoon

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Centre for Wireless Communications
P.O.Box 4500, FI-90014
University of Oulu, Finland

Email: sumudu.samarakoon@oulu.fi
URL: <https://spsamare.wixsite.com/sumudu-samarakoon>
Mobile: +358 44 963 6084

Personal information

Family name: Samarakoon Born: April 7, 1985—Kurunegala, Sri Lanka
Given names: Sumudu Prasad Nationality: Sri Lankan
Researcher ID: 0000-0002-2382-1982 ([ORCID](#)), nQMLneYAAAAJ ([Google Scholar](#))

Tenure Track

01-Nov-2021 Assistant Professor *in* Machine Learning for Wireless Communications
University of Oulu, Finland
Email: university.of.oulu@oulu.fi

Degrees & Titles

01-Feb-2021 Docent *in* Communication-Efficient Machine Learning, University of Oulu, Finland
28-Nov-2017 Doctor of Science (Technology) *in* Communications Engineering, University of Oulu, Finland
26-May-2011 Master of Engineering *in* Telecommunications, Asian Institute of Technology, Thailand
1-Jun-2009 Bachelor of Science of Engineering (Hons) *in* Electronics & Telecommunication Engineering,
University of Moratuwa, Sri Lanka

Language skills

		Understanding Listening, Reading,	Speaking Interaction, Production, Writing	
Native language:	Sinhala			
Other languages:	English	(C1, C2, C1, C2, C2)	Self-assessment
	Finnish	(A1, B1, A1, A1, A2)	YKI test (2019)

Current employment

From 1-Nov-2021 Assistant professor (Tenure Track) – Machine Learning for Wireless Communications, Centre for Wireless Communications (CWC), University of Oulu, Finland; Research career stage III;
Research management, supervision, & administration, promoting science, funding acquisition, and teaching

Previous work experience

From 1-Feb-2017 to 31-Oct-2021 *Postdoctoral researcher* at CWC, University of Oulu, Finland; Research career stage II
From 6-Jun-2011 to 31-Jan-2017 *Doctoral student* at CWC, University of Oulu, Finland;
Simultaneously completing doctoral studies
From May-2010 to Apr-2011 *Tutor for undergraduate program* at Asian Institute of Technology, Thailand;
Part time employment during masters studies
From Sep-2008 to Mar-2009 *Laboratory instructor* at Dept. of Electronics & Telecommunication Engineering, University of Moratuwa,
Sri Lanka; Part time employment during the final year of bachelor studies
From Oct-2007 to Mar-2008 *Site supervisor (trainee Engineer)* at Huawei Technologies Lanka (PVT) LTD, Sri Lanka;
Involved with site surveys, NodeB installations, quality checking process, and preliminary acceptance tests

Research funding and grants

Project funding received as PI/Co-PI from University of Oulu

From Jan-2023 to Dec-2025 *CRUISE*, Consortium, Academy of Finland, € 269 000; Providing all the technical inputs related to University of Oulu contributions
From Jan-2022 to Dec-2025 *R2D2*, Individual, Infotech Oulu, € 412 000; Sole responsibility of the proposal preparation

Project funding received as a key personal representing university of Oulu under the PI Prof. Mehdi Bennis

From Jan-2023 to Jun-2025 *VERGE*, Consortium, European commission (EU) – Horizon-JU-SNS, € 195 000; Providing all the technical inputs related to University of Oulu contributions, Project Manager (PM)
From Sep-2020 to Aug-2023 *IntelliIoT*, Consortium, EU – Horizon 2020, € 452 500; Providing technical inputs related to University of Oulu contributions, PM
From Dec-2018 to Nov-2022 *MISSION*, Consortium, Academy of Finland, € 350 000; Providing technical inputs for some tasks of University of Oulu contributions, Project Member

Grants to support doctoral studies (amount in Euro)

- 2015 Nokia foundation (5000)
2014 Nokia foundation (5000), Ulla Tuominen foundation (3000), Riitta and Jorma J. Takanen foundation (1000)

Research output

72 publications in international journals and proceedings. The publications have been cited 4414 times, of which the most cited publication accounts for 706 citations; **h-index: 29** (source: [Google Scholar](#))

Five most significant publications

- [1] J. Park, **S. Samarakoon**, M. Bennis and M. Debbah, “Wireless Network Intelligence at the Edge,” in Proceedings of the IEEE, vol. 107, no. 11, pp. 2204-2239, Nov. 2019.
- [2] **S. Samarakoon**, M. Bennis, W. Saad and M. Debbah, “Distributed Federated Learning for Ultra-Reliable Low-Latency Vehicular Communications,” in IEEE Transactions on Communications, vol. 68, no. 2, pp. 1146-1159, Feb. 2020.
- [3] **S. Samarakoon**, M. Bennis, W. Saad and M. Debbah, “Federated Learning for Ultra-Reliable Low-Latency V2V Communications,” 2018 IEEE Global Communications Conference (GLOBECOM), Abu Dhabi, United Arab Emirates, 2018, pp. 1-7.
- [4] J. Park, **S. Samarakoon**, H. Shiri, M. K. Abdel-Aziz, T. Nishio, A. Elgabli and M. Bennis, “Extreme ultra-reliable and low-latency communication,” in Nature Electronics, vol. 5, no. 3, pp. 133-141, Mar. 2022.
- [5] **S. Samarakoon**, M. Bennis, W. Saad, M. Debbah and M. Latva-aho, “Ultra Dense Small Cell Networks: Turning Density Into Energy Efficiency,” in IEEE Journal on Selected Areas in Communications, vol. 34, no. 5, pp. 1267-1280, May 2016.

Patents and inventions

- 2025 R. G. Vijithasena, R. Scaciota, **S. Samarakoon**, M. Bennis, and M. Abdel-Aziz, “Planning control using Deep Koopman Operator under limited resources in Wireless Networked Control Systems,” Ref. OU25031.
- 2024 M. Mohsenivatani, S. Ali, and **S. Samarakoon**, “Masked autoencoder based signaling overhead reduction for MIMO,” Ref. OU24014.
- 2023 R. Scaciota, **S. Samarakoon**, M. Bennis, M. Gallage, and M. S. Elbamby, “Self-supervised radio-Lidar-camera representation learning for object sensing and tracking.” Ref. OU23037.
- 2016 P. Luoto, **S. Samarakoon**, and M. Bennis, “Co-Primary Spectrum Sharing for 4G/5G Small Cell Base Stations with Long Term Fairness Criteria,” filed under US Patent Application No. 14/605,052.

Research supervision and leadership experience

Supervision/co-supervision of postdoc/senior researchers

- Ongoing Dr. Chathuranga Weeraddana
Past Dr. Rafaela Scaciota Simoes da Silva, Dr. Jayampathy Ratnayake, Dr. Nadia Adem

Principal/co-supervisor role for doctoral degree students

- Ongoing Rasika Vijithasena, Hossein Mohammadi Firouzjaei, (University of Oulu)
Maryam Mohsenivatani, (Nokia)
Dinaj Attanayaka, Yasintha Rumeshe (VTT)

Advisor role for doctoral degree students

- Ongoing Mohamed Abdelaziz, Dinesh Manimel Wadu (Nokia)
Graduated Dr. Hamza Khan, Dr. Tamoor Syed

Supervision/co-supervision of master degree students

- Ongoing Aloka Seneviratne, Randitha Rajapaksha, Emil Kelh  l  
Graduated Athmajan Vivekananthan, Pramod Munaweera Kankanamge, Suranga Wengappuli Arachchige,
Christian Padilla Olivo, Jian Zhang, Malith Gallage, Kalpana ranasinghe, Dinesh Manimel Wadu,
Vishaka Basnayake

Supervision of research assistants

- Ongoing Madushanka Hewa Pathirana
Former Chamith Mawela, Malith Gallage, Kalpana ranasinghe

Other leadership roles

- Management of research projects: *IntellIoT*, *VERGE*, *R2D2*, *CRUISE*
- Leader of theme *Distributed AI* in [Strategic Research Area 3 \(Distributed Intelligence\)](#) under 6G Flagship

Teaching & pedagogical merits

Completed training

Fall 2024	Fundamentals of project management
Fall 2022	Varbi recruitment system user training
Fall 2021	Introduction to University Pedagogy

Conducted sessions

Spring 2018,	Strategic Learning in Wireless Networks: Theory and Applications at University of Oulu, Finland
Fall 2020,	<i>Responsibilities of tutorial sessions (preparation of materials, teaching and assessing assignments) and examination</i>
Fall 2021	<i>(preparation and evaluation)</i>

Awards and honours

2021	<i>Title of Docent in Communication-Efficient Machine Learning</i> , Faculty of Information Technology and Electrical Engineering, University of Oulu, Finland
2016	<i>CWC excellence awards for Outstanding Doctoral Student</i> in Radio Technology Unit, Centre for Wireless communications, University of Oulu, Finland
2016	<i>CWC excellence awards for Innovators</i> , Centre for Wireless communications, University of Oulu, Finland
2016	<i>Best paper award</i> at European Wireless Conference, Finland
2016	<i>Best paper award</i> at European Wireless Conference, Finland
2011	<i>Wireless personal multimedia communications prize</i> for field of Telecommunication, Asian Institute of Technology, Thailand
2004	<i>Gold medallist – C.W.W. Kannangara merit awards</i> for top-tens in physical science stream, Sri Lanka

Other key academic merits

Referee for scientific publications

Since 2013	More than 110 manuscripts are refereed in journals (TWC, TCOM, TON, EURASIP, MDPI, etc.)
Since 2011	More than 75 manuscripts are refereed in conference proceedings (EDAS, TrackChair, Confy)

Workshop organizing

Oct-2025	Intelligent IoT Systems for Extreme Environments (IoT4X 2025) at IEEE PICom, Japan
Mar-2025	Resilient 6G Networks (WResNet 6G) at IEEE WCNC, Italy
May-2024	Integration and use of AI in Robotics and Automation at AIIoT, India

TPC roles

Since 2013	12 conferences including ICC, Globecom, PIMRC, and many others
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Session chair roles

2022	IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)
2021	IEEE Wireless Communications and Networking Conference (WCNC)

Editorial roles

2020	Guest editor of the special issue Millimeter wave communications in Telecom Journal, Publisher: MDPI
2025	Editor of the Selected Proceedings of the 3rd International Engineering Research Symposium (IERS 2025), Sri Lanka, Publisher: Springer Nature