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INVITED TALK

Machine Learning Techniques for Wireless Sensor Network: *Issues and challenges*

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Abstract—*Machine Learning (ML) has emerged as one of the most important areas of research interests for many researchers around the world in recent times due to its applicability in various domains of research. Advances in wireless communication technologies such as Mobile Ad hoc Network (MANET) and Wireless Sensor Network (WSN) has further proliferated the call for interdisciplinary research involving ML techniques. In ML, we program the computers to make the best use of a performance criterion based on example data or past experience. The central job in ML is to make inference from a sample on the basis of evidence and reasoning. ML focuses on the ability of the computers to act and learn automatically without being exactly programmed.*

WSN is a dynamic network technology that can be easily deployed as and when required. It has been widely used in many areas such as environment sensing, area monitoring, military application, transport systems, medical applications etc. Further research and investigation on WSN is needed to improve its performance. In this invited talk, an attempt has been made to outline a few problem domains in WSN where ML techniques can be applied to resolve those problems. The WSN issues and research challenges are briefly discussed and suitable ML techniques to deal with those issues and challenges are discussed.

Biography of the Speaker

Dr. Moirangthem Marjit Singh received his B.Tech. and M.Tech. in Computer Science & Engineering from NEHU Shillong and NERIST Arunachal Pradesh in 2001 and 2010 respectively. He received his PhD (Engg.) degree in Computer Science & Engineering from University of Kalyani, West Bengal in 2017. Dr. Marjit has 17+years of teaching and research experience. He has published a number of papers in international journals and conference proceedings. Dr. Marjit was awarded the IE(I) Young Engineers Award 2014-2015 and the Best paper award in ICACCT 2016 Springer international conference. He was awarded the Gold Medal for getting top Position in M.Tech. Program. Besides these achievements, Dr.Marjit secured 1st position in X and 2nd position in XII examinations conducted by CBSE New Delhi amongst the candidates sent up from Jawahar Navodya Vidyalayas (JNVs) of North Easternregion in 1995 and 1997 respectively. He is a Fellow of IETE New Delhi and Senior Member of IEEE USA. Currently Dr. Marjit is the Head of Department of Computer Science & Engineering at North Eastern Regional Institute of Science & Technology (NERIST), a Deemed to-be University under MHRD Govt. of India, Nirjuli, Arunachal Pradesh. His research area of interests includes Mobile Adhoc Networks, Wireless Sensor Network, Network Security, AI, Machine Learning and Deep Learning.