

IEEE Computational Intelligence Society Distinguished Lecture

Randomization-Based Deep and Shallow Neural Networks

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<https://www.ntu.edu.sg/home/epnsugan/>

Date: Thursday 19 December 2019

Time: 15:30 - 16:30

Venue: 12.08.02 (Building 12, Level 8, Room 2), RMIT City Campus

Abstract:

This talk will first introduce the main randomization-based feedforward neural networks with closed-form solutions. The popular instantiation of the feedforward type called random vector functional link neural network (RVFL) originated in early 1990s. RVFL variants will be empirically evaluated. Subsequently, deep versions of RVFL will be presented as a single and ensemble classifiers. The talk will also present extensive benchmarking studies using classification and forecasting datasets.

Biography of the speaker:

Ponnuthurai Nagaratnam Suganthan received the B.A degree, Postgraduate Certificate and M.A degree in Electrical and Information Engineering from the University of Cambridge, UK in 1990, 1992 and 1994, respectively. After completing his PhD research in 1995, he served as a pre-doctoral Research Assistant in the Dept. of Electrical Engineering, University of Sydney in 1995-96 and a lecturer in the Dept. of Computer Science and Electrical Engineering, University of Queensland in 1996-99. He moved to Singapore in 1999. He is a founding co-editor-in-chief of Swarm and Evolutionary Computation (2010 -), an SCI Indexed Elsevier Journal with an impact factor of 6.33 in 2019-2020. He is an associate editor of Applied Soft Computing (Elsevier, 2018-), Neurocomputing (Elsevier, 2018-), IEEE Trans on Evolutionary Computation (2005 -), Information Sciences (Elsevier, 2009 -), Pattern Recognition (Elsevier, 2001 -) and Int. J. of Swarm Intelligence Research (2009 -) Journals. He was an Editorial Board Member of the Evolutionary Computation Journal, MIT Press (2013-2018) and an associate editor of the IEEE Trans on Cybernetics (2012 - 2018). His co-authored SaDE paper (published in April 2009) won the "IEEE Trans. on Evolutionary Computation outstanding paper award" in 2012. His former PhD student, Dr Jane Jing Liang, won the IEEE CIS Outstanding PhD dissertation award, in 2014. His research interests include swarm and evolutionary algorithms, pattern recognition, forecasting, randomized neural networks, deep learning and applications of swarm, evolutionary & machine learning algorithms. His SCI indexed publications attracted over 1000 SCI citations in a calendar year since 2013. He was selected as one of the highly cited researchers by Thomson Reuters every year from 2015 to 2019 in computer science. He served as the General Chair of the IEEE SSCI 2013. He is an IEEE CIS distinguished lecturer (DLP) in 2018-2020. He has been a member of the IEEE (S'91, M'92, SM'00, Fellow'15) since 1991 and an elected AdCom member of the IEEE Computational Intelligence Society (CIS) in 2014-2016.



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