CALL FOR PAPERS

MDCWC 2020

ONLINE WORKSHOP

Machine Learning Deep Learning and Computational Intelligence for Wireless Communication

22nd October to 24th October 2020

Last date for submitting the papers through easychair: 31st August 2020

All the accepted papers will be published as the chapter in the Lecture Notes in Electrical Engineering, Springer

Due to the feasibility of collecting huge data from mobile and wireless networks, there are many possibilities of using Machine learning, Deep-learning and the Computational Intelligence to interpret and to hunt knowledge from the collected data. The workshop aims in consolidating the experimental results, integrating the Machine Learning, Deep Learning and Computational Intelligence for Wireless Communication.

The workshop invites original research contributions/ Survey papers / Review papers under the following

(1) The data driven wireless communication applications using ML, DL and CI
(2) Optimization algorithm/technique for ML, DL and CI
(3) Related mobile data applications

- Status of the submitted papers will be intimated immediate after the review gets over.
- Registration needs to be done within 10 days after getting the notification along with the revised paper and copyright form. Payment through SBI
- Registration is complete once the filledup Google form is submitted: Author registration, Participants
- Click here for further details

Co-ordinator: Dr.E.S.Gopi (esgopi@nitt.edu), Department of ECE, NIT, Tiruchirappalli
Series Editor, Signals and Communication Technology (Springer publications, Scopus indexed)

Co-cordinators: Dr.B.Rebekka (rebekka@nitt.edu), Dr.G.Thavasi Raja (thavasi@nitt.edu),

Pattern recognition and Computational Intelligence Laboratory

Department of Electronics and Communication Engineering

National Institute of Technology, Tiruchirappalli

Patron:
Mini Shaji Thomas, Director,
National Institute of Technology,
Tiruchirappalli

Co-Patron:
P Muthuchidambaranathan,
Head of the Department/ECE

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(External members)

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- **K K Biswas**, Retired Professor, Indian Institute of Technology Delhi
- **Deep Gupta**,VNIT,Nagpur
- **Dushantha Nalin K Jayakody**, National Research Tomsk Polytechnic University, Russia.
- **Emre celebli**, University of central Arkansas
- **Florintina**, GE Electronics, Bangalore.
- **Gaurav Purohit**, CSIR-CEERI, Pilani, Rajasthan.
- **JithinJagannath**, Director, Marconi-Rosenblatt AI/ML Innovation Lab,Research scientist, Andro computational solutions, New York.
- **Krishna Moorthy**, IIIT, Trichy
- **Lakshmanan**, Senior Research scientist, MayachitraInc. Deep learning data solutions, California
- **Lakshmi sutha**, NIT, Puducherry
- **Mandeep Singh**, NIT, Surathkal
- **Mohammed shaik**, Qualcomm, Hyderabad
- **Murugan**,NIT Silchar, Assam
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- **Shilpi Gupta**, SVNIT,Gujarat
- **Shyam Lal**, NIT, Karnataka
- **Shrishail Hiremath**,NIT Rourkela
- **Sudakar chauhan**, NIT Kurushetra
- **Swaminathan R**, Indian Institute of Technology Indore.
- **Shweta Shah**,SVNIT,Gujarat
- **Smrithi Agarwal**, Motilal Nehru NIT,Allahabad
- **Tajinder SinghArora**,NIT Uttarakhand
- **Umesh C Pati**,NIT, Rourkela
- **Vineetha Yogesh**, Qualcomm, Bangalore.

TPC Internal members include the Faculty from the Department of Electronics and Communication Engineering, Computer Science Engineering and Computer Applications

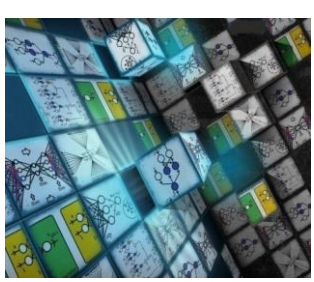
Registration details for Participants

Participants will be allowed to attend all the following sessions of the workshop. (a) **Guest lectures** (b) **Invited talks** **(c)Paper presentation by the authors** **(d)Machine learning, Deep learning and Computational intelligence Tutorial on 23rd October 2020** .

Tutorial lectures will be based on the book titled "**Pattern Recognition and Computational Intelligence Techniques Using Matlab**" 2019, Transactions on computational Science and intelligence, Springer publications authored by the Co-ordinator for the event MDCWC 2020

Participation certificate will be provided

Maximum number of participants: 50 FCFS basis. Hurry!



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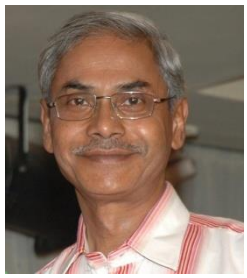
Key Note Speakers



Prof. K.K. Biswas did his Btech in Electrical Engineering from IIT Madras, followed by Mtech in Control systems and Phd in signal estimation from IIT Delhi. After a brief stint at University of Roorkee, he joined the EE deptt of IIT Delhi and later shifted to Computer science engineering department. He retired from Computer science department of IIT Delhi with a career span of over 40 years. Currently he is associated with The Bennett University of the Times Group. He has been a visiting professor at the University of Auckland, New Zealand and at the University of Central Florida, USA. He has been collaborating with University of Oxford and University of Texas at Austin. He has been an active researcher with 18 Phd students, and more than 100 publications in reputed journals and international conferences. His current area of research interest is image and video processing, Deep learning with applications in Human activity recognition and disease identification of agricultural crops.

Prof. M. Emre Celebi received his B.Sc. degree in Computer Engineering from the Middle East Technical University (Ankara, Turkey) in 2002. He received his M.Sc. and Ph.D. degrees in Computer Science and Engineering from the University of Texas at Arlington (Arlington, TX, USA) in 2003 and 2006, respectively. He is currently a Professor and the Chair of the Department of Computer Science at the University of Central Arkansas. Celebi has actively pursued research in image processing/analysis and data mining with an emphasis on medical image analysis, color image processing, and partitional clustering. He has worked on several projects funded by the US National Science Foundation and National Institutes of Health and published over 150 articles in reputable journals and conference proceedings. He is a senior member of the IEEE and SPIE.

Dr. Dush Nalin Jayakody received the MSc degree in Electronics and Communications Engineering from the Eastern Mediterranean University, Turkey (under the University Graduate Scholarship) and ranked as the first merit position holder of the department. He received the Ph. D. degree in Electronics and Communications Engineering, from the University College Dublin, Ireland under the supervision of Prof. Mark Flanagan (under the Science Foundation Ireland Grant). From 2014- 2016, he has held a Postdoc position at the Coding & Information Transmission group, University of Tartu, Estonia and University of Bergen, Norway. From 2016, he is a Professor at the School of Computer Science and Robotics, National Research Tomsk Polytechnic University, Russia. Dr. Jayakody is a Senior Member of IEEE and he has served as session chair or technical program committee member for various international conferences, such as IEEE PIMRC 2014, IEEE WCNC 2014/2016, IEEE VTC 2015 etc.

Dr. Jithin Jagannath is the Director of Marconi-Rosenblatt AI/ML Innovation Lab (MR Lab) at ANDRO Computational Solutions, LLC located in Rome, NY USA. Previously, he received his B. Tech. from the university of Kerala, M.S. from State University of New York at Buffalo, and his Ph.D. in Electrical Engineering University of New York at Buffalo, and his Ph.D. in Electrical Engineering from Northeastern University. As the Director of the MR Lab, he leads multiple teams that have been working on innovative ML-based solutions for signal, detection-characterization, building intelligent software-defined radio solutions, jamming-resilient MIMO beamforming, and enabling autonomy, sense and avoid capabilities for unmanned aerial vehicles. Dr. Jagannath's expertise and research interests include machine learning, computer vision, wireless networking, anti-jamming technologies, an signal processing. Dr. Jagannath has been the Lead author and Principal Investigator of several cutting-edge research projects selected for funding totaling of $8 Million over that last two years. His recent work has led to 7 patent applications and several publications. His latest publication titled "Machine Learning for Wireless Communication in the Internet of Things: A Comprehensive Survey" published in Ad Hoc Networks (Elsevier) has consistently been in one of the most downloaded list of the journal since its publication. He is an IEEE Senior member and serves in the IEEE Industry DSP Technology Standing Committee. He also renders his services as TPC, Editor, and reviewer to several leading conferences and journals.

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Invited Speakers		
1	**Dr.Lakshmanan Nataraj**	Senior Research Staff Member, Mayachitra Deep learning data solution, Santa Barbara, United States
2	**Dr. Gaurav Purohit**	Scientist,CSIR-CEERI,Pilani
3	**Dr. Lalit Kumar Singh**	Scientist, NPCIL-BARC, Department of Atomic Energy
4	**Dr. Shyam lal**	Faculty, National institute of Technology, Karnataka
3	**Mr. Abhinav,**	MBit, Technologes, Bangalore
4	**Ms. Florintina**	GE Electronics, Bangalore
5	**Mr. Mohammed shaik**	QualComm, Hyderabad
6	**Ms. Vineetha Yogesh**	QualComm, Bangalore
7	**Mr. Sankar Nair**	QualComm, Chennai

Submit the paper at the earliest under the following Topics (Not limited to)

Machine Learning

- Multiple input multiple Output regression
- Probabilistic discriminative approach
- Multi-class Logistic Regression
- Probabilistic generative model
- Support Vector Machine
- Dimensionality reduction Techniques

Computational Intelligence

- Particle Swarm Optimization
- Bacterial Foraging
- Simulated Annealing
- Ant Colony Technique
- Genetic algorithm
- Social Emotional Optimization Algorithm
- Social evolutionary Learning Algorithm

Deep Learning

- Multilayer perceptron
- Boltzmann Machine
- Auto-Encoders
- Convolution Neural Network
- Recurrent Neural Network
- Generative Adversarial Network
- Deep Reinforcement Learning

Optimization algorithms

Adagrad, Adadelta, RMSprop, Adam, SGD

Mobile data applications

- Mobile health care
- Mobile pattern recognition
- Natural language processing
- Image processing

Wireless Communication

- Network prediction, Traffic classification, Call detail record mining
- Automatic speech processing
- Mobility Analysis, Indoor Localization
- Energy minimization, Routing, Scheduling, Resource allocation, Multiple access, Power control
- Malware detection, Cyber security, Flooding attacks detection, Mobile apps sniffing
- MIMO detection, Signal detection in MIMO-OFDM, Modulation recognition
- Channel Estimation, MIMO nonlinear equalization,
- Super-resolution channel and direction of arrival estimation. NOMA, mm-Wave channel model,
- Full duplex, OFDM/FBMC, NB-IO

Co-ordinator

Dr. E. S. Gopi is currently an Associate Professor in the Department of Electronics and Communication Engineering, National Institute of Technology Tiruchirappalli. He has two decades of teaching and research experience. He has authored seven books and nine book chapters. He has several papers in international journals and conferences to his credit. He is also the coordinator for the Pattern Recognition and Computational Intelligence Laboratory and the COMPSIG newsletter. His research interests include pattern recognition, signal processing, and computational intelligence. He is the series editor for the Signals and Communications Technology, Springer publications. He is also the Guest speaker for the IEEE Training School on Machine Learning for Wireless Communication during 20th to 23rd September 2020