

Prof. Dr. Türker Ince



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Türker Ince is a Professor of Data Science and Engineering at the German International University (GIU) in Berlin, Germany. He received a B.S. degree from the Bilkent University, Ankara, in 1994, an M.S. degree from the Middle East Technical University, Ankara, in 1996, and a Ph.D. degree from the University of Massachusetts, Amherst, in 2001 all in Electrical Engineering. Dr. Ince has been in Academia since 2006, worked as a Professor at Izmir University of Economics, and held visiting Senior Research Fellow position at Tampere University, Computing Sciences Department in 2010, 2017 and 2022, and visiting Research Professor position at the University of Massachusetts, Amherst, Electrical and Computer Engineering Department in 2023. Dr. Ince has 7 years industrial experience gained working in R&D roles at Texas Instruments - Dallas, Aware – Boston, and Aselsan – Ankara.

Education

BS, Electrical and Electronics Engineering, Bilkent University, 1994

MS, Electrical and Electronics Engineering, Middle East Technical University, 1996

Ph.D., Electrical and Computer Engineering, University of Massachusetts, Amherst, 2001

Research Interests

His research interests include machine learning, deep learning, pattern recognition, signal processing, computer vision, evolutionary optimization, remote sensing, and biomedical engineering. His current research mainly focuses on developing advanced machine learning, signal processing, and optimization paradigms with applications to real-world problems such as near real-time analysis of remote sensing imagery, patient-specific biomedical signal processing and analysis, biomedical and audio signal restoration, and early fault diagnosis and domain adaptation for predictive maintenance.

Selected Research

- T. Ince, O. Devecioglu, S. Kiranyaz, and M. Gabbouj, "Blind Restoration of Real-World Audio by 1D Progressive Operational GANs," arXiv preprint arXiv:2212.14618, 2022.

¹ Subject to the approval of the Berlin Senate.

- M. Gabbouj, S. Kiranyaz, T. Ince, J. Malik, M.U. Zahid, M. Chowdhury, A. Khandakar, A. Tahir "Robust Peak Detection for Holter ECGs by Self-Organized Operational Neural Networks," IEEE Transactions on Neural Networks and Learning Systems, TNNLS-2021-P-16170, doi: 10.1109/TNNLS.2022.3158867, 2022.
- S. Kiranyaz, J. Malik, H.B. Abdallah, T. Ince, A. Iosifidis and M. Gabbouj, "Self-organized Operational Neural Networks with Generative Neurons," Neural Networks, 140:294-308 doi: 10.1016/j.neunet.2021.02.028, 2021.
- T. Ince, O. Devecioglu, J. Malik, S. Kiranyaz, L. Eren and M. Gabbouj, "Early Bearing Fault Diagnosis of Rotating Machinery by 1D Self-Organized Operational Neural Networks" IEEE Access, 9, 139260-139270, 2021.
- S. Kiranyaz, O. Avci, O. Abdeljaber, T. Ince, M. Gabbouj, D.J. Inman, "1-D Convolutional Neural Networks and Applications: A survey," Mechanical Systems and Signal Processing, doi: 10.1016/j.ymssp.2020.107398, 2020.
- S. Kiranyaz, T. Ince, A. Iosifidis and M. Gabbouj, "Operational Neural Networks," Neural Computing and Applications, 32, 6645–6668, 2020.
- M. Ahishali, S. Kiranyaz, T. Ince and M. Gabbouj, "Dual and Single Polarized SAR Image Classification Using Compact Convolutional Neural Networks," Remote Sensing, 11, 1340, 2019.
- S. Kiranyaz, T. Ince, and M. Gabbouj, "Personalized Monitoring and Advance Warning System for Cardiac Arrhythmias," Scientific Reports - Nature, vol. 7, doi: 10.1038/s41598-017-09544-z, Aug. 2017.
- T.Ince, S.Kiranyaz, L.Eren, M.Askar and M.Gabbouj, "Real-Time Motor Fault Detection by 1D Convolutional Neural Networks," IEEE Trans. on Industrial Electronics, vol. 63, Issue 11, pp. 7067 – 7075, 2016.
- S. Kiranyaz, T. Ince and M. Gabbouj, Multi-dimensional Particle Swarm Optimization for Machine Learning and Pattern Recognition, Book: Springer, 383 pages, 2014.
- T. Ince, S. Kiranyaz, and M. Gabbouj, "Evolutionary RBF Classifier for Polarimetric SAR Images," Expert Systems with Applications, 39, 4710 – 4717, 2012.
- T. Ince, S. Kiranyaz, J. Pulkkinen, and M. Gabbouj, "Evaluation of global and local training techniques over feed-forward neural network architecture spaces for computer-aided medical diagnosis," Expert Systems with Applications, Article ID 4730, 2010.
- T. Ince, S. Kiranyaz, and M. Gabbouj, "A Generic and Robust System for Automated Patient-specific Classification of Electrocardiogram Signals," IEEE Transactions on Biomedical Engineering, 56(5), 1415-1426, 2009.
- S. Kiranyaz, T. Ince, A. Yildirim and M. Gabbouj, "Evolutionary Artificial Neural Networks by Multi-Dimensional Particle Swarm Optimization," Neural Networks, 22, 1448-1462, 2009.