Irfan Tariq, Ph.D.

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Education

Sep 2018 – June 2023 **Ph.D., Southeast University, Nanjing, China.**
Major: *Information and Communication Engineering.*
Thesis title: *Researches in the detection and classification of Pulsar signals*
Courses study: *Advance Signal Analysis and processing , Detection and Estimation, VLSI Design , IC for Optic-Fiber Communication .*

Sep 2014 – March 2017 **Ms, Nanjing University of Science and Technology, Nanjing, China.**
Courses study: *Digital signal processing , Digital Communication, Software Radio Technology , Advance Signal Processing , Digital image processing, Wireless Sensor Network.*
Major: *Signal and Information processing.*
Thesis title: *Wideband Sensing for Sparse Spectrum.*

Feb 2010 – March 2014 **Bs, COMSATS Institute of Information Technology, Wah, Pakistan.**
Major: *Bachelor of Science in Electrical Telecommunication Engineering .*
Courses study: *Digital Logic Design, Data Communication and Computer Networking, Digital Communication System, Wireless Communication System , Digital image processing, Wireless Sensor Network.*

Research Publications

Journal Articles

1. TARIQ, I., DONG, N.-f., WANG, J.-x., & ABBAS, S. R. (n.d.). Fast computing dft method for sparse signals based on downsampling.
2. Khan, A., Tariq, I., Khan, H., Khan, S. U., He, N., Zhiyang, L., Raza, F. et al. (2022). Lung cancer nodules detection via an adaptive boosting algorithm based on self-normalized multiview convolutional neural network. *Journal of Oncology*, *2022*.
3. Li, S., Meng, Q., Tariq, I., & Chen, X. (2022). A 78-mhz bw continuous-time sigma-delta adc with programmable vco quantizer. *CMC-COMPUTERS MATERIALS & CONTINUA*, *72*(3), 6079–6090.
4. Liu, W., Meng, Q., Wang, C., Zhou, C., Yao, S., & Tariq, I. (2022). A real-time, pipelined incoherent dedispersion method and implementation in fpga. *Publications of the Astronomical Society of the Pacific*, *134*(1031), 015008.
5. Tariq, I., Qiao, M., Wei, L., Yao, S., Zhou, C., Ali, Z., … Spanakis-Misirlis, A. (2022). Classification of pulsar signals using ensemble gradient boosting algorithms based on asymmetric under-sampling method. *Journal of Instrumentation*, *17*(03), P03020.

6. Tariq, I., Meng, Q., Yao, S., Liu, W., Zhou, C., Ahmed, A., & Spanakis-Misirlis, A. (2022). Adaboost-dsnn: An adaptive boosting algorithm based on deep self normalized neural network for pulsar identification. *Monthly Notices of the Royal Astronomical Society*, *511*(1), 683–690.
7. Yao, S., Meng, Q., Chen, C., & Tariq, I. (2022). A dptf algorithm for the time-delay estimation in the reflected environment. *Digital Signal Processing*, *127*, 103534.
8. Liu, W., Meng, Q., Wang, C., Zhou, C., Yao, S., & Tariq, I. (2021). An efficient channelization architecture and its implementation for radio astronomy. *Journal of Instrumentation*, *16*(08), P08047.
9. Yao, S., Meng, Q., Chen, C., Tariq, I., Zhou, C., & Liu, W. (2021). High-precision time delay estimation of narrowband radio signal by phat-lstm. *Measurement Science and Technology*, *32*(7), 075001.
10. Azeem, S. W., Tariq, I., Mehmood, K., Ehab, M., Rizwan, M., & Mond, M. A. (2020). Hybrid resonant three-level zcs converter suitable for photovoltaic power mvdc distribution network. *IET Renewable Power Generation*, *14*(11), 1956–1963.
11. Tariq, I., & Qiao, M. (2019). A fast dft method for generally k sparse signals recovery. *SN Applied Sciences*, *1*, 1–6.
12. Iqbal, M., Zhang, K., Iqbal, S., & Tariq, I. (2018). A fast and reliable dijkstra algorithm for online shortest path. *Int. J. Comput. Sci. Eng*, *5*(12), 24–27.

Conference Proceedings

1. Tariq, I., Qiao, M., Yao, S., Ullah, K., Khan, S. U., & Wei, L. (2022). Cost sensitive self-normalized deep convolutional neural network for pulsars selection. In *2022 4th international conference on computer communication and the internet (iccci)* (pp. 116–121). IEEE.
2. Khan, A., He, N., Tariq, I., & Li, Z. (2021). Stacking ensemble method for early and advanced stage lung adenocarcinoma classification based on mirna expression. In *2021 10th international conference on bioinformatics and biomedical science* (pp. 76–81).
3. Khan, A., Baohua, W., Ahmed, S. B., & Tariq, I. (2020). A current transformer saturation time difference method for detecting out of zone fault using mathematical morphology. In *2020 ieee 1st china international youth conference on electrical engineering (ciycee)* (pp. 1–5). IEEE.
4. Sharif, U., Sun, B., Tariq, I., Ibrahim, D. S., Adewale, O. O., & Zafar, A. (2020). Static and modal analysis of sandwich beam structure with magnetorheological honeycomb core. In *2020 6th international conference on mechanical engineering and automation science (icmeas)* (pp. 19–23). IEEE.
5. Shah, S. S., Sun, W., Tariq, I., & Xu, S. (2019). Analog compensator design for half bridge llc resonant converter. In *2019 ieee 4th international conference on signal and image processing (icsip)* (pp. 313–317). IEEE.
6. Abbas, Z., Li, J., Yadav, N., & Tariq, I. (2018). Computational task offloading in mobile edge computing using learning automata. In *2018 ieee/cic international conference on communications in china (iccc)* (pp. 57–61). IEEE.
7. Khan, A., Wang, B.-h., Tariq, I., & Abbas, S. R. (2017). A comparative study of morphological gradient and its improved form for ct saturation detection. In *Wcne* (pp. 364–368).

Internship History

March 2018 - March 2019

Software Engineer, (Nanjing Pimi Optoelectronics Technology Co., Ltd, China)

The main contribution of this work is as follows:

An algorithm based on the fusion of Gabor features and texture orientation fields in the framework of Markov field modeling (MRF) was used to detect the wrinkles and other imperfections in the surrounding skin.

April 2017 - Sep 2017

Technical Support Engineer, (Askari Cement LTD, Pakistan)

The main contribution of this work is as follows:

Assist in installation and maintenances of Network systems, Participated in Network Planning ,monitored protocol comparability , perform system tuning and make recommendations for improvement.

Skills

Languages

- Strong reading, writing and speaking competencies for English.
- Basic Chinese
- Mother tongue: Pashto and Urdu.

Coding

- Matlab, Python, TensorFlow, Scikit-learn, PyTorch, Linux.
- Microsoft Office, PowerPoint.

Misc.

- Academic research, LaTeX typesetting and publishing.

Certification

March 2014 - Sep 2014

Applied for Admission in China for Master Degree

september 2017 - March 2018

Applied for Ph.D in China

May 2022-June-2022

Convolutional Neural Network

Awarded by deeplearning.ai

References

Available on Request