Charantej Reddy Pochimireddy

Ph.D. candidate in Communication and Signal Processing
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Research Interests

Signal Processing and Machine Learning

Work Experience

05-12 2022	**Visiting researcher at Swinburne University of Technology, Australia (part of Joint Ph.D. program)** Worked on problems in Signal processing and Graph learning.
07-08 2019	**Research Intern at TCS Innovation Labs, Pune** Worked on generating time series data using generative adversarial networks.
08-12 2017	**Senior Associate Software Engineer at MathWorks India Pvt. Ltd., Hyderabad** Worked on traffic sign detection and recognition and logo recognition using convolutional neural networks.
02–07 2017	**Image Processing Engineer at Uurmi Systems Pvt. Ltd., Hyderabad** Worked on pedestrian detection using deep learning (in MATLAB) and compressing convolutional neural networks for real-time application.
07–11 2016	**Application Support Engineer at MathWorks India Pvt. Ltd., Bangalore** Helped customers to solve technical problems using MATLAB and Simulink and worked with the developers to apply the customer-facing knowledge to projects within the company.

Education

SINCE 2018	**Joint Ph.D. in Communication and Signal Processing, IIT Hyderabad**, Hyderabad and **Swinburne University of Technology**, Melbourne Thesis: "Fast and Efficient DFT Computation for Signals with Structured Support" Advisor: Dr. Aditya Siripuram | Co-Advisor: Dr. Jingxin Zhang CGPA: 9.5/10
JUNE 2016	**Masters in Communication and Signal Processing, IIT Hyderabad**, Hyderabad Thesis: "Sparsity based spatio-temporal video quality assessment" Advisor: Dr. Sumohana Channappayya CGPA: 9.55/10
MAY 2013	**Bachelors in Electronics and Communication, SNIST, JNTU Hyderabad**, Hyderabad CGPA: 77.02/100

Publications

[1] Charantej Reddy Pochimireddy, Aditya T. Siripuram, and Sumohana S. Channappayya. "Can Perceptual Guidance Lead to Semantically Explainable Adversarial Perturbations?" In: *IEEE Journal of Selected Topics in Signal Processing* (2023), pp. 1–11. DOI: 10.1109/JSTSP. 2023.3258253.

[2] Charantej Reddy Pochimireddy, Aditya Siripuram, and Brad Osgood. "Fast DFT Computation for Signals with Structured Support". In: *IEEE Transactions on Information Theory* (2023), pp. 1–1. DOI: 10.1109/TIT.2023.3329804.

[3] P Charantej Reddy, Aditya Siripuram, and Brad Osgood. "Some results on convolution idempotents". In: *2020 IEEE International Symposium on Information Theory (ISIT)*. IEEE. 2020, pp. 1462–1467.

[4] P Charantej Reddy, V S S Prabhu Tej, and Aditya Siripuram. "Fast DFT computation for signals with spectral support". In: *2021 National Conference on Communications (NCC)*. 2021, pp. 1–6. DOI: 10.1109/NCC52529.2021.9530137.

[5] P Charantej Reddy, V S S Prabhu Tej, Aditya Siripuram, and Brad Osgood. "Computing the Discrete Fourier Transform of signals with spectral frequency support". In: *2021 IEEE International Symposium on Information Theory (ISIT)*. 2021, pp. 2381–2386. DOI: 10.1109/ ISIT45174.2021.9518104.

[6] B Subbareddy, P Charantej Reddy, Aditya Siripuram, and Jingxin Zhang. "A survey of signal processing based graph learning techniques". In: *2019 1st International Conference on Industrial Artificial Intelligence (IAI)*. IEEE. 2019, pp. 1–6.

Awards and Recognitions

- Recipient of the **Qualcomm Innovation Fellowship** (QIF-2021).

- Mentor for BTech EE student team that was placed sixth worldwide in IEEE VIP Cup 2019.

Computer Skills

Programming:	C, Python
Tools:	MATLAB, Simulink

Interests and Activities

Technology, Cricket

References

Dr. Aditya Siripuram
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