Abhishek Aich

WCH 371, University of California, Riverside, CA 92521, USA
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RESEARCH INTERESTS

Computer Vision, Deep Learning, and Sparse Signal Optimization
- Specific Interests: Adversarial Attacks, Image/Video Reconstruction/Enhancement, Person Re-Identification

EDUCATION

University of California, Riverside, CA, USA
- Ph.D. in Electrical and Computer Engineering — Sep 2018 – Present
  - Adviser: Prof. Amit K. Roy-Chowdhury
  - GPA: 3.84 / 4.00

National Institute of Technology, Tiruchirappalli, Tamil Nadu, India
- M.S. in Electronics and Communication Engineering — 2016 – 2018
  - Thesis: Exploiting Sparsity for Direction of Arrival Estimation Algorithms in Linear Array
  - Adviser: Prof. P. Palanisamy
  - GPA: 8.80 / 10.00

Biju Patnaik University of Technology, India
- B.Tech. in Electronics and Communication Engineering — 2011 – 2015
  - Thesis: Target Tracking using Parametric Spectral Estimation Methods
  - Supervisor: Prof. Utpal K. Dash
  - GPA: 9.02 / 10.00

RESEARCH EXPERIENCE

United Imaging Intelligence, America, Cambridge — MA, USA
- Research Intern — Jun 2020 – Sep 2020
  - Group: Vision and Robotics Group
  - Mentors: Dr. Ziyan Wu, Dr. Srikrishna Karanam, Dr. Meng Zheng
  - Focus: Supervised Video-based Person Re-Identification.

University of California, Riverside — CA, USA
- Graduate Student Researcher — Sep 2018 – Present
  - Group: Video Computing Group
  - Supervisor: Prof. Amit K. Roy-Chowdhury
  - Focus: Computer Vision and Deep Learning.

National Institute of Technology, Tiruchirappalli — Tamil Nadu, India
- Research Scholar — Feb 2016 – Apr 2018
  - Group: Signal and Image Processing Lab.
  - Supervisor: Prof. P. Palanisamy
  - Focus: Array Signal Processing, Compressed Sensing.

Silicon Institute of Technology, Bhubaneswar — Odisha, India
- Research Assistant — May 2014 – Aug 2015
  - Supervisor: Prof. Utpal K. Dash
  - Focus: Array Signal Processing.

TEACHING EXPERIENCE

University of California, Riverside — CA, USA
- Teaching Assistant — Sep 2020 – Mar 2021
  - Under-Graduate Course: Senior Design Project (Computer Vision) (EE175A/EE175B)
  - Supervisor: Prof. Amit K. Roy-Chowdhury

University of California, Riverside — CA, USA
- Teaching Assistant — Sep 2019 – Mar 2020
  - Under-Graduate Course: Senior Design Project (Computer Vision) (EE175A/EE175B)
  - Supervisor: Prof. Amit K. Roy-Chowdhury

National Institute of Technology, Tiruchirappalli — Tamil Nadu, India
- Teaching Assistant — Jan 2018 – Apr 2018
  - Graduate Course: Digital Signal and Image Processing Lab. (EC610)
  - Supervisor: Prof. P. Palanisamy

SELECTED PUBLICATIONS

[1] Akash Gupta, Abhishek Aich, and Amit K. Roy-Chowdhury, "ALANET: Adaptive Latent Attention Network for Joint Video Deblurring and Interpolation", *ACM International Conference on Multimedia (ACM MM)*, 2020. (*Oral*)

[2] Abhishek Aich*, Akash Gupta*, Rameswar Panda, Rakib Hyder, M. Salman Asif, and Amit K. Roy-Chowdhury, "Non-Adversarial Video Synthesis with Learned Priors", *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020. (* joint first authors)

[3] Akash Gupta, Abhishek Aich, Kevin Rodriguez, G. Venugopala Reddy, and Amit K. Roy-Chowdhury, "Deep Quantized Representation for Enhanced Reconstruction", *ISBI 2020 Workshop*, 2020.

[4] Abhishek Aich, and P. Palanisamy, "A Novel CS-Beamformer root-MUSIC Algorithm and its Subspace Deviation Analysis", *IEEE Region 10 Conference (TENCON)*, 2017.

[5] Abhishek Aich, and P. Palanisamy, "On Application of OMP and CoSaMP Algorithms for DOA Estimation Problem", *IEEE International Conference on Communication and Signal Processing (ICCSP)*, 2017. (*Oral*)

[6] Abhishek Aich, and P. Palanisamy, "A Strict Bound for Dimension of Measurement Matrix for CS-Beamformer MUSIC Algorithm", *IEEE Region 10 Conference (TENCON)*, 2016. (*Oral*)

AWARDS & SCHOLARSHIPS

- **Student Volunteer Award**, ICLR 2021 — 2021
- **Student Volunteer Award**, NeurIPS 2020 — 2020
- **Deans Distinguished Fellowship Award**, University of California, Riverside — 2018 – 2019
- **MHRD Scholarship**, Govt. of India — 2016 – 2018
- **Scholar's Club**, Silicon Institute of Technology, Bhubaneswar — 2012 – 2015
  - For being in the Top 3 of the Electrical and Communication Engineering Department
- **e-Medhabruti Scholarship**, Govt. of Odisha — 2012 – 2015

TECHNICAL SKILLS

- **Programming Skills**: Python, MATLAB
- **Deep Learning Libraries**: PyTorch
- **Scientific Computing Libraries**: numpy, scipy, sciKit-learn, matplotlib
- **Others**: LaTeX, MS Office, OpenCV, Jupyter

GRADUATE COURSES

• Introduction to Deep Learning • Adv. Computer Vision • Machine Learning • Information Theory • Convex Optimization • State and Parameter Estimation Theory • Stochastic Processes • Sparsity, Structure, and Inference • Math. Methods for EE • Adv. Digital Signal Processing

PROFESSIONAL ACTIVITIES

Conference Reviewer:
IEEE CVPR2021–(HVU, TCV, DNetCV), IEEE CVPR2020–NAS, IEEE ECCV2020–MVA, IEEE TENCON 2016/2017

Journal Reviewer:
IEEE TIP, IEEE TSP, TF IJEL, IET SP