

- EDUCATION**
- University of Pittsburgh** 2021 - present  
*Ph.D. Intelligent Systems*  
*Advisor* : Dr. Seong Jae Hwang  
Recipient of *SCI Fellowship*, Dept. of Intelligent Systems
- Birla Institute of Technology and Science, Pilani** 2013 - 20  
*M.E. Software Systems*  
Thesis : Hyperspectral guided Image Dehazing | *Advisor* : Dr. Pratik Narang
- M.Sc. (Hons.) Chemistry*  
Thesis : Emission Properties of triplet harvesting AIE active materials in the reverse micelles of gemini surfactants | *Advisor* : Dr. Subit K Saha, Dr. Inamur R Laskar
- B.E. (Hons.) Electrical & Electronics*  
Thesis : Deep Learning for Biometrics | *Advisor* : Dr. Pawan K Ajmera
- PUBLICATIONS**
- [Harsh Sinha](#), Aditya Mehta, Murari Mandal and Pratik Narang. **Learning to Enhance Visual Quality via Hyperspectral Domain Mapping (Student Abstract)**. Proceedings of the AAAI Conference on Artificial Intelligence (**AAAI 2021**)
- Aditya Mehta, [Harsh Sinha](#), Murari Mandal and Pratik Narang. **Domain-Aware Un-supervised Hyperspectral Reconstruction for Aerial Image Dehazing**. Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV 2021**)
- Aditya Mehta, [Harsh Sinha](#), Pratik Narang and Murari Mandal. **HIDeGAN: A Hyperspectral-guided Image Dehazing GAN** Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (**CVPR 2020**) Workshops.
- [Harsh Sinha](#), V. Awasthi and Pawan K Ajmera. **Audio Classification using Braided Convolutional Neural Networks**. IET Signal Processing 14, no. 7 (2020): 448-454.
- [Harsh Sinha](#), Sakshi Kalra and Yashvardhan Sharma. **Text-Convolutional Neural Networks for Fake News Detection in Tweets**. In Evolution in Computational Intelligence (pp. 81-90). Springer, Singapore, 2020.
- [Harsh Sinha](#) and Pawan K. Ajmera. **Upgrading Security and Protection in Ear Biometrics**. IET Biometrics 8, no. 4 (2019): 259-266.
- [Harsh Sinha](#), Raunak Manekar, Yash Sinha, and Pawan K Ajmera. **Convolutional Neural Network-based Human Identification using Outer Ear Images**. In Soft Computing for Problem Solving, pp. 707-719. Springer, 2019.
- [Harsh Sinha](#), Shivin Srivastava, and Yash Sinha. **Studying the Role of Kinect as a Multi-Sensory Learning Platform for Children**. In Proceedings of the 2018 ACM International Joint Conference and 2018 International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers (**UbiComp 2018**), pp. 251-254. ACM
- [Harsh Sinha](#) and Pawan K. Ajmera. **Interweaving Convolutions: An application to Audio Classification**. KDD Deep Learning Day, 24th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD 2018**), London.

RESEARCH EXPERIENCE	<p>CSIR - Central Electronics Engineering Research Institute, Pilani  <i>Mentor:</i> Dr. Santanu Chaudhury (Director, IIT Jodhpur) July 2018 - Dec 2018          Explored the immense potential of Generative Adversarial Networks (GANs) to generate 31 band hyperspectral images from RGB images employing the idea of neural oscillations to train GANs.</p> <p>Samsung R&amp;D Institute, Noida  <i>Mentors:</i> Mr. Chetan Chauhan, Mr. Ashish Thakur Summer 2017          Proposed a Convolutional Encoder Decoder Network for End to End Image Generation using Tensorflow. The architecture was trained to detect blurred region of images in a pixel-by-pixel manner without any external estimation techniques.</p> <p>CSIR - Central Electronics Engineering Research Institute, Pilani  <i>Mentor:</i> Dr. J. L. Raheja (Chief Scientist, Machine Vision Lab) Jun 2015 - Feb 2016          Using an input depth map data streams from a kinect sensor, a skeleton-tracking algorithm was applied for fall detection. The relative normalized positions of joints was achieved using a torso-centered coordinate system.</p>
PROJECTS	<p>Reducibility among Combinatorial Problems Aug 2019 - Oct 2019</p> <p>ViSoft: Visualization in Software Testing Aug 2019 - Oct 2019</p> <p>Machine Learning A Variational Training perspective to GANs for Hyperspectral Image Generation Jan 2018 - Dec 2018</p> <p>Computer Vision Detection of Amur Tigers in the Wild Aug 2019 - Oct 2019</p> <p>Query Based Deep Face Image Retrieval Jan 2019 - May 2019</p> <p>NLP Real-time Twitter Sentiment Analysis Jan 2019 - May 2019</p> <p>Spring MVC Estate Security Management System Jun 2018 - Dec 2018</p>
TECHNICAL SKILLS	<p><i>Languages &amp; Software:</i> PyTorch, TensorFlow, Keras, Python, MATLAB, Java, C/C++  <i>Courses:</i> Object Oriented Analysis and Design, Data Mining, Machine Learning  <i>MOOCs:</i> Machine Learning, Data Science Specialization</p>
HONORS & AWARDS	<p>Fellow, Department of Intelligent Systems Jan 2021          Awarded to a select few doctoral students across the School of Computing and Information at the University of Pittsburgh.</p> <p>UbiComp 2018 Travel Grant Oct 2018          Awarded a travel reimbursement of USD 600 for UbiComp '18</p> <p>Microsoft Code.Fun.Do. Finalist Forum Feb 2016 - August 2016  <i>Runners Up</i> across top 15 universities in India. Developed a Kinect-based learning platform which consisted of multiple games and a dashboard to help specially-abled children overcome difficulties in education. Awarded prizes worth INR 1,00,000.</p>
PROFESSIONAL SERVICE	<p>Reviewer : IET Biometrics, BMVC 2020, WACV 2021</p>
EXTRA CURRICULAR ACTIVITIES	<p>Johns Hopkins University  <i>Community Teaching Assistant.</i> Responsible for supporting student learning on discussion forums at Coursera for the courses Exploratory Data Analysis and Reproducible Research</p> <p>Prayag Sangeet Samiti, Allahabad  <i>Sangeet Prabhakar in Tabla.</i> Equivalent to Bachelor of Music in Vocal/Instrumental.</p>