

**Report on**

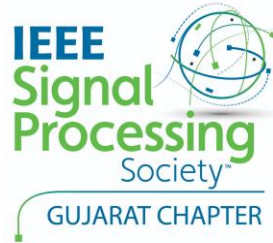
**IEEE Technical Talk Series 2021**



**Expert: Dr. Vineeth N Balasubramanian**

**May 6<sup>th</sup>, 2021**

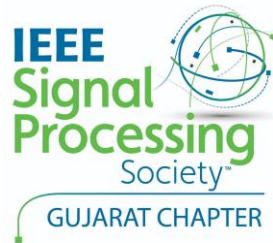
**Title: Deep Learning with Limited Labelled Data:  
Challenges and Trends.**



**IEEE Signal Processing Society**  
**Gujarat Section**

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## Poster for the talk



**IEEE Signal Processing Society Gujarat Chapter**  
in collaboration with  
**IEEE SPS, Kerala Chapter and IEEE SPS MBIT SBC**  
presents  
**Expert Talk Series**

*With the growing need for integrating machine learning-based intelligence across various applications with constrained domains, there is a need to develop methods that can learn effectively from limited labeled data.*



**Dr. Vineeth N Balasubramanian**  
*Associate Professor, Department of  
Computer Science and Engineering  
&  
Head, Department of Artificial Intelligence  
at Indian Institute of Technology, Hyderabad  
(IIT-H)*

**Deep Learning with Limited Labeled Data:  
Challenges and Trends**

06 May 2021 | 11 AM IST

Scan to Register



<http://bit.ly/spsdeeplearningtalk>  
(WebEx link will be sent to registered participants)



[ieeespsgs.org/](http://ieeespsgs.org/)



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## **Expert Profile**



### **Dr. Vineeth N Balasubramanian**

**Associate Professor in the Department of Computer Science and Engineering at the Indian Institute of Technology, Hyderabad (IIT-H), India, and currently serves as the Head of the Department of Artificial Intelligence at IIT-H.**

Dr. Vineeth N Balasubramanian is an Associate Professor in the Department of Computer Science and Engineering at the Indian Institute of Technology, Hyderabad (IIT-H), India, and currently serves as the Head of the Department of Artificial Intelligence at IIT-H. His research interests include deep learning, machine learning, and computer vision. His research has resulted in over 100 peer-reviewed publications at various international venues, including top-tier venues such as ICML, CVPR, NeurIPS, ICCV, KDD, ICDM, and IEEE TPAMI. His PhD dissertation at Arizona State University on the Conformal Predictions framework was nominated for the Outstanding PhD Dissertation at the Department of Computer Science. He serves as a Senior PC/Area Chair


for conferences such as CVPR, ICCV, AAAI, IJCAI, and is an Associate Editor for the Pattern Recognition journal with recent awards as Outstanding Reviewer at ICLR 2021, CVPR 2019, ECCV 2020, etc. He is also a recipient of the Teaching Excellence Award at IIT-H in 2017, and a Google Research Scholar Award (earlier known as the Google Research Faculty award) in 2020. His research is funded by various organizations including DST, DRDO, Microsoft Research, Google Research, Adobe, Intel, KLA and Honeywell. He currently serves as the Secretary of the AAAI India Chapter.

## 🚩 Glimpses of the Talk

11:30 | 🔊 | 🔍 | 📶 | LTE | 📶 | 🔋 55%

### Paradigms of Learning

- **Supervised Learning**
  - The machine predicts a category or a few numbers for each input
- **Learning with Limited Supervision**
  - Machine predicts a category or a few numbers for each input, given partial information!
- **Unsupervised Learning**
  - The machine predicts any part of its input for any observed part.
- **Reinforcement Learning**
  - Predicts future frames in videos
  - The machine predicts a scalar reward given once in a while



Many layers in the cake below the frosting!

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Vineeth N B (cohost)

The top section shows two mobile phone screens displaying a Webex meeting. The left screen, at 11:37, shows a slide titled "Learning with Limited Supervision" with diagrams for Multi-Task Learning, Transfer Learning, and Domain Adaptation. The right screen, at 12:13, shows a slide titled "Adversarial Data Programming" with a diagram of a GAN architecture and references to CVPR 2018 and Under Review 2020.

The bottom section shows a desktop screenshot of a Cisco Webex meeting interface. It features a grid of 20 participants, a chat window with messages, and a bottom toolbar with controls like Unmute, Stop video, Share, and Breakout sessions.

**Participants (60)**

- RN Reeti Nanda, Cohost, me
- AD Arpan Desai, Host
- CP Chirag Paunwala, Cohost
- DJ Dhruva Joshi, Cohost

**Chat**

research and explaining it such a lucid style.  
from Ayush Patel to everyone: 12:33 PM  
Thanks you very much Dr Vineet sir for such a wonderful session  
from Yogesh Tiwari to everyone: 12:33 PM  
Thank you sir.

To: --- Please Select ---  
Enter chat message here

## 🚩 Memento Format

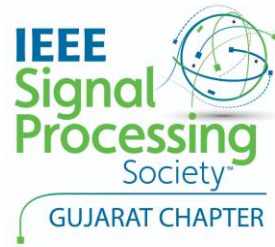


## 🚩 Number of Participants

**Total: 215**

**IEEE Members: 107**

**NON-IEEE Members: 108**



**Report Prepared by: Reeti Nanda**