



A Webinar on “AI Fundamentals”

IEEE MVSR SB CASS Student Chapter has conducted a webinar on “AI Fundamentals” on 14th February, 2021. This was conducted as most of the students wanted to get acquainted with the knowledge of Artificial Intelligence.

Student Branch Mentor:

Dr. Atul Negi,
Professor, School of CIS,
University of Hyderabad

Student Branch Advisor:

Dr. G. Kanaka Durga,
Principal and Professor,
MVSR Engineering College.

Student Branch Counsellor:

Dr. D. Hari Krishna,
Associate Professor, EEE Dept.,
MVSR Engineering College.

Student Branch Executive Committee:

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Vice Chair	Ms. N. Sahitya
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WIE Affinity Group Advisor:

Mrs. A. Vijaya Vahini,
Assistant Professor, IT Dept.,
MVSR Engineering College.

PES Student Chapter Advisor:

Dr. D. Hari Krishna,
Associate Professor, EEE Dept.,
MVSR Engineering College.

CS Student Chapter advisor:

Mrs. B. Saritha
Associate Professor, CSE Dept.,
MVSR Engineering College.

CASS Student Chapter Advisor:

Mrs. S. Aruna
Assistant Professor, ECE Dept.,
MVSR Engineering College.

Computer Society:

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Operating Committees:

Publicity	Mr. Zeeshan, Mr. Omer
Membership	Mr. J. Sahith
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Program	Mr. P. Srikrushna
Social Media & Content Writing	Ms. K. Laxmi Priya

Session details:

Date: 14th February, 2021.

Time: 10:30am to 12:30pm.

No. of participants: 55

Speaker Details: Mr. Shashank Dhariwal works as a module lead in Bangalore, India. He has a rich technology experience in Artificial Intelligence, Biometrics and Computer Vision.

- He worked in Continental AG as a Technical Architect.
- His research concepts include Signal Processing and Embedded Systems.
- Received best paper award for IEEE UPCON conference in 2017.



**Maturi Venkata Subba Rao
Engineering College**
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**IEEE MVSR
Student Branch**



IEEE MVSR SB CASS STUDENT CHAPTER
Presents a
Webinar on

WEBINAR

AI Fundamentals

Date : 14 February 2021 | 10:30 AM-12:30 PM IST

Speaker :



Shashank Dhariwal

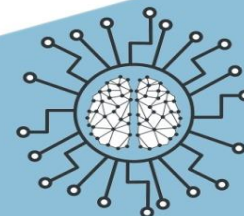
*Rich technology experience in
Biometrics and Computer Vision
Skilled at Machine Learning &
Deep Learning, CNNs,
Tensorflow, Theano*

Faculty Co-ordinators

Mrs. S. Aruna
CASS Student Branch Advisor
Asst. Professor, ECE Dept, MVSREC

Contact:

**Venkat- 9505344510
Pranitha- 9182900528**



**ARTIFICIAL
INTELLIGENCE**

Poster of the Webinar

Ms. Pranitha, Vice Chair, CASS, IEEE MVSR SB has started the meeting by welcoming the speaker Mr. Shashank Dhariwal, Dr. D. Hari Krishna, Student Branch Counsellor, IEEE MVSR SB, Mrs. S. Aruna, CASS Advisor, IEEE MVSR SB, faculty members, ExCom and all the attendees.

Then, Dr. D. Hari Krishna had addressed the gathering, appreciated Mr. D. Venkat, Chairperson, IEEE MVSR CASS for conducting such useful events and shared the achievements of IEEE MVSR SB to the speaker.

Mrs. S Aruna, CASS Advisor, IEEE MVSR SB addressed the meeting and spoke about the bond she shared with the speaker. Next, she talked about the conduction of the workshop and thanked the speaker for accepting to share his knowledge.

Thereafter, Ms. Anjana, Treasure, CASS, IEEE MVSR SB introduced the speaker to the attendees and has spoken about all of his achievements.

The screenshot shows a Zoom meeting interface. At the top, it says 'Shashank Dhariwal is presenting' and '2451-19-735-114 BOLLU AKSHAY MO... and 38 more'. The time is 10:40 AM. The slide content is as follows:

Introduction to AI

- › Some Current AI trends and where they are used now.
- › What is AI, ML and DL and how they fall in respect to each other?
- › Why the HYPE of Deep Learning.
- › Difference between ML and DL.
- › Introduction to different kinds of learning – supervised, semi-supervised, unsupervised and Reinforcement learning.
- › What is Regression and Classification?
- › What is Transfer Learning?
- › The AI Pipeline – data collection, data preparation, feature engineering, training, deployment.

At the bottom of the slide, there is a Continental logo, the word 'Internal', the date '14.02.2021', and 'he|a|t AI © Continental AG'. The slide number '3' is in the bottom right corner. The Zoom meeting controls at the bottom include 'Meeting details', 'Mute', 'Unmute', 'Video Off', 'Raise hand', 'Turn on captions', and 'Shashank Dhariwal is presenting'.

A Slide about Introduction to AI

The speaker, Mr. Shashank Dhariwal has started the workshop by giving an introduction about Artificial Intelligence to the attendees and detailed about it.

He spoke about the meaning of the term “Artificial Intelligence” .He also told about the different versions of Raspberry Pi available and its application for Machine Learning and how there are added modifications to each advancing version.

The screenshot shows a Zoom meeting interface. At the top, it says 'Shashank Dhariwal is presenting' and 'Anjana 088 and 52 more'. The time is 10:52 AM. The slide content is as follows:

What is AI, Machine Learning, Deep Learning ?

The diagram consists of three overlapping circles. The largest, outermost circle is grey and labeled 'Artificial Intelligence – Computers with the ability to reason and mimic cognition as humans'. Inside it is a smaller orange circle labeled 'Machine Learning – Computers with the ability to learn without being explicitly programmed'. Inside the Machine Learning circle is the smallest, innermost white circle labeled 'Deep Learning – Neural Networks (Programs) capable of adapting itself to new data'.

At the bottom of the slide, there is a Continental logo, the word 'Internal', the date '14.02.2021', and 'he|a|t AI © Continental AG'. The slide number '18' is in the bottom right corner. The Zoom meeting controls at the bottom include 'Meeting details', 'Mute', 'Unmute', 'Video Off', 'Raise hand', 'Turn on captions', and 'Shashank Dhariwal is presenting'.

Relation between AI, ML and Deep learning

He shared the presentation by talking about the current trends in the field of AI. With the help of images, he explained the interconnection of Deep Learning, Machine Learning and Artificial Intelligence. He also spoke about how everything can be clubbed under the cloud of AI.

He quoted the different trends available in AI one by one and explained them in detail. He spoke about 'Alpha Go' the game. He explained how the algorithm works and how complex the code is.

He also spoke about the script of the movie 'Sunspring'. He explained how the entire script of the movie was written with the help of an AI enabled tool.

He then continued the session by explaining about 'Regression'. He spoke about its importance in Machine Learning. He said that Regression problems are those where the model will need to predict a real number.

The screenshot shows a Zoom meeting interface with a slide titled "What is Deep Learning". The slide content includes:

- Header:** "What is Deep Learning" in orange text.
- Text:** "Deep Learning is great at pattern recognition/machine perception, and it's being applied to images, video, sound, voice, text and time series data. It can help you classify, cluster and predict with sometimes superhuman accuracy."
- Diagram 1: Hierarchical Feature Learning**
 - Text: "It's deep if it has more than one stage of non-linear feature transformation"
 - Flow: A yellow car image is processed through "Low-Level Feature", "Mid-Level Feature", and "High-Level Feature" stages, leading to a "Trainable Classifier".
 - Visuals: A grid of feature visualizations showing patterns like edges, textures, and shapes.
 - Caption: "Feature visualization of convolutional net trained on ImageNet from [Zeiler & Fergus 2013]"
- Diagram 2: End to End Learning**
 - Text: "Andrew Ng"
 - Examples: "Images/video" (motorcycle image) leading to "Label: 'Motorcycle', Suggest tags, Image search"; "Audio" (waveform) leading to "Speech recognition, Music classification, Speaker identification"; "Text" (web page) leading to "Web search, Anti-spam, Machine translation".
- Footer:** "Continental" logo, "Internal", "14.02.2021 he[a] AI © Continental AG", and "53".

The Zoom interface at the bottom shows "Meeting details", "Raise hand", "Turn on captions", and "Shashank Dhariwal is presenting".


A slide about Deep Learning

The session later was continued by the speaker by talking about Deep Learning and Neural Networks. He gave detailed description about them with help of well-versed examples and pictures.


He spoke about the complexity and the importance of Neural Networks. He said that these networks are very important in the computation of complex algorithms. He demonstrated about the fully connected layers and their classification of Neural Networks with an example.

REC Shashank Dhariwal is presenting 1003-sarayu and 31 more 11:38 AM You


Understanding the environment.



Monitoring the Cabin



Understanding the Occupant



1. Semantic Segmentation
2. Pedestrian & Vehicle detection
3. Person Reidentification
4. Tracking
5. Semantic Segmentation with Surround View camera.
6. Monocular Depth Estimation
7. In-cabin Monitoring
8. Leftover Detection
9. Driver Focus of Attention
10. Pose Estimation
11. Occupant Safety Detection
12. Understanding behavior – Age, Gender, Emotion.
13. Activity Recognition

Continental Internal 14.02.2021 heja AI © Continental AG 71

Meeting details ^

Raise hand Turn on captions Shashank Dhariwal is presenting

A slide about image processing.

The speaker next spoke about the ML pipelining: and Data Acquisition He also spoke about the data cleaning, Feature engineering, Model Training and Evaluation and Model deployment.

Finally with the help of some images, he explained about the Image applications and examples like the Activity Recognition, Semantic segmentation, Tracking, Monocular Depth.

Finally, The speaker answered all the questions with the assistance of pictures and sample code pieces. The session ended with a vote of thanks by Ms, Shreeya Rishi, Secretary, CASS. She thanked all the attendees for their time and presence.

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