

**Sarvajanik College of Engineering and Technology**  
**Department of Computer Engineering**



**GUJCOST-DST Sponsored 2-Days Workshop**  
**on**  
**“Recent Advancements and Applications of Deep Learning”**

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**Objectives of the Workshop:**

- To communicate sensational applications of deep learning to a wider audience from varied engineering disciplines, especially the academic community and researchers.
- To promote growth and exposure to advances in deep learning and thereby facilitating in-depth discussions in deep learning.
- To provide hands-on training exposure to the participants using Tensorflow and Keras.
- To accelerate research and professional activities in the field of deep learning by providing a common platform for technology transfer.
- To provide research inclination towards the future scope in the field of deep learning.

**Dates & Days:** 28-29 September, 2018 (Friday and Saturday)

**Time :** 09.30 am to 5.15 pm

**Venue:** Seminar Hall, 1<sup>st</sup> Floor, Department of Electronics and Communication, SCET

**Speakers:**

- Dr. Ketan Kotecha, Director and Dean, SIT, Pune
- Dr. Maulika Patel, Head and Professor, GCET, Vidyanagar
- Dr. Priyank Thakkar, Associate Professor, Nirma University, Ahmedabad
- Dr. Nirali Nanavati, Assistant Professor, SCET, Surat
- Prof. Rachana Oza, Assistant Professor, SCET, Surat

**Participants:** 48 faculty members and students from Computer Engineering, Information & Technology Engineering, Physics Department, M.Sc.(IT) and MCA participated in the workshop. They were from various Engineering colleges across South Gujarat region.

**Coordinator:** Prof. (Dr.) Mayuri Mehta, Department of Computer Engineering.

**Members of Organizing Committee:**

Prof. Bhavesh Patel  
Prof. Jaydeep Barad  
Prof. Rachana Oza  
Dr. Nirali Nanavati  
Prof. Dhatri Pandya

## Summary:

Department of Computer Engineering of Sarvajanic College of Engineering and Technology organized GUJCOST-DST sponsored 2-days workshop on “Recent Advancements and Applications of Deep Learning” during 28-29 September, 2018.

The workshop was aimed to guide the students and faculty members to excel in research and professional activities in the field of Deep Learning and thereby, to improve on technology transfer. The lectures and lab sessions of the workshop were conducted by eminent speakers from different disciplines of academia. The following table summarizes the various sessions of the workshop.

Sr. No.	Speaker Name and Session Title	Session Details
1.	<b>Prof. (Dr.) Maulika Patel</b> 1. Machine Learning: Introduction and Applications 2. Reinforcement learning and its Practical Applications	Dr. Maulika Patel gave us an insight of machine learning and types of machine learning along with their applications. In addition, she discussed biological neural network and artificial neural network along with significance of artificial neural network for protein characterization.  In her second session, she took the participants through the introduction of Reinforcement Learning, Q - Learning and also through the various practical applications of Reinforcement Learning.
2.	<b>Dr. Ketan Kotecha</b> Deep Learning: Introduction and Applications	Dr. Ketan Kotecha first introduced and differentiated three buzzwords: Artificial Intelligence, Machine Learning and Deep Learning. Subsequently, he gave the participants an insight of Deep Learning and demonstrated some real-time applications such as Amazon Go, LipNet, Skype Translator, Robot, etc. for which deep learning has been already deployed. He concluded with discussion of potential of deep learning for future applications with ever increasing data.
3.	<b>Prof. (Dr.) Nirali Nanavati and Prof. Rachana Oza</b> Deep Learning using Tensorflow	In this lab session, Dr. Nirali and Prof. Rachana demonstrated potential of Tensorflow for machine learning/deep learning. They gave good exposure about the Tensorflow and its libraries. They demonstrated several examples that helped participants to get an idea of working of Tensorflow.
4.	<b>Prof. (Dr.) Priyank Thakkar</b> 1. Convolutional Neural Network (CNN) 2. Recurrent Neural Network (RNN) 3. Generative Adversarial Networks (GAN) 4. Deep Learning using Keras	During his first session, Dr. Priyank introduced Convolutional Neural Network in detail and made participants aware of each step of working of Convolutional Neural Network. He also gave good exposure on Supervised Learning with real-time examples and Feed Forward Neural Network.  During his second session, he took the participants through the introduction of Recurrent Neural Network and made them aware about different types of RNN. He also discussed real-time applications of Recurrent Neural Network.  In third session, he educated participants about the Generative

		<p>Adversarial Network and its current and future applications.</p> <p>In lab session, he introduced Keras for deep learning and its various libraries. He also demonstrated some examples that helped participants to understand the working of Keras.</p>
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I would like to extend my sincere gratitude to Sarvajanik Education Society and Sarvajanik College of Engineering and Technology for permitting me to submit workshop proposal to GUJCOST and subsequently providing necessary infrastructure for conducting the workshop after receiving workshop approval from GUJCOST.

I am thankful to our honourable principal madam Dr. Vaishali Mungurwadi for her continuous guidance and motivation in organizing such events. I extend my gratitude to Mr. Bhaskar Cheruku, Registrar for his continuous positive and prompt support. I also thank Prof. (Dr.) Keyur Rana, HOD, Department of Computer Engineering for his constant support.

I extend my earnest gratitude to all the eminent speakers (Dr. Ketan Kotecha, Dr. Maulika Patel, Dr. Priyank Thakkar, Dr. Nirali Nanavati, Prof. Rachana Oza) who traveled long distance and spare their valuable time.

I thank Dr. Maulin Joshi, HOD, EC Department for permitting use of Seminar Hall and Dr. Shabbir Bohra, HOD, Electrical Department for permitting us to use portable mike system for hands-on sessions. I also thank lab assistants for helping in preparation of lab and during theory/hands-on sessions too.

I would like to express my deep gratefulness to members of organizing committee (Prof. Bhavesh Patel, Prof. Jaydeep Barad, Dr. Nirali Nanavati, Prof. Rachana Oza and Prof. Dhatri Pandya) for their relentless help and support without which it would have been difficult to conduct the workshop smoothly. I deeply appreciate the support extended by all the student volunteers (Kushal Mistry, Vishal Jobanputra, Sahil, Ayushi Shah, Aditi Vyas, Pinal Revar, Helly Desai, Abhishek and Parth Roy) for their assistance in publicizing the workshop, preparing brochure, capturing photos, presenting vote of thanks to speakers, feedback form preparation, etc.

My sincere thanks to all staff members of CO department for their help in all the possible ways whenever required. I am also thankful to lab attendants for being always ready for any kind of work. Last but not the least, I am very thankful to all the participants for your kind presence during the workshop.

Following are some glimpses of the workshop.



