

RTU (ATU) TEQIP-III
Sponsored
Faculty Development Programme
On
"Deep Learning for Medical Data Analysis"

20th– 24th December 2020



Organized by
Rajasthan Technical University, Kota
&
Swami Keshvanand Institute of Technology,
Management & Gramothan, Jaipur



Host Institute
Department of Computer Science & engineering
and
Department of Information Technology
Swami Keshvanand Institute of Technology,
Management & Gramothan, Ramnagar,
Jagatpura, Jaipur – 302017
Web: www.skit.ac.in



*A
Report
on
Five Days
Faculty Development Program
20th-24th December 2020*

Sponsored by TEQIP III



**RTU (ATU) TEQIP-III Coordinator
Prof. (Dr.) Dharendra Mathur**

**RTU Event Coordinator
Dr. Harish Sharma
Mrs. Nirmala Sharma**

**Host Institute Coordinators:
Mr. Sunil Dhankhar, Associate Professor
Ms. Anjana Sangwan, Associate Professor
Dr. Sunita Gupta, Associate Professor
Ms. Dolly Mittal, Assistant Professor**

***Organized By*
Rajasthan Technical University, Kota
&
Swami Keshvanand Institute of Technology Management
& Gramothan, Jaipur**

***Host Institute
Department of Computer Science & Engineering
and Information Technology
Swami Keshvanand Institute of Technology Management
& Gramothan, Jaipur***

FDP Deep Learning for Medical Data Analysis

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1. About TEQIP-III:-

The project, third phase of Technical Education Quality Improvement Program (referred to as TEQIP-III) is fully integrated with the twelfth five-year plan objectives for Technical Education as a key component for a improving the quality of engineering education in existing institutions with a special consideration for low income states and special category state and support to strengthen few affiliated technical universities to improve their policy, academic and management practices.

2. About Rajasthan Technical University:-

Rajasthan Technical University (RTU) is located at Kota in the state of Rajasthan. It was established in 2006 by the Government of Rajasthan. The university currently affiliated about 129 engineering colleges, 04 B. Arch, 41 MCA Colleges, 95 MBA Colleges, 44 M. Tech. Colleges and 03 Hotel Management and Catering Institute. The University aims to provide quality technical education which may help Rajasthan in its technical development and will boost technical environment in the country.

3. About SKIT:-

Swami Keshvanand Institute of Technology, Management & Gramothan (SKIT), inspired from the learnings of Swami Keshvanand, was established in the year 2000 by Technocrats and Managers Society for Advanced Learning. Today, the Institute is recognized as one of the centers of academic excellence in Northern India. The Institute is affiliated to Rajasthan Technical University, Kota for offering Ph. D., Postgraduate and Graduate Courses in Engineering and Management.

Located in the Pink City Jaipur, which is a blend of traditional history and modern outlook, SKIT is putting in efforts for making industry ready engineers and managers through effective Industry –Institute Interface. Apart from University curriculum, SKIT also pursues activities for research and development in various fields.

Students joining the institute share the box full of opportunities for professional and personal development through an environment of practical orientation, industrial interaction and student led activities which help the students to develop good communication skills, integrated personality and greater competitive spirit.

Vision

To promote higher learning in advanced technology and industrial research to make our country a global player

Mission

To promote quality education, training and research in field of Engineering by establishing effective interface with industry and to encourage faculty to undertake industry sponsored projects for students.

Quality Policy

FDP Deep Learning for Medical Data Analysis

We are committed to ‘achievement of quality’ as an integral part of our institutional policy by continuous self-evaluation and striving to improve ourselves.

Institute would pursue quality in

- All its endeavours like admissions, teaching- learning processes, examinations, extra and co-curricular activities, industry institution interaction, research & development, continuing education, and consultancy.
- Functional areas like teaching departments, Training & Placement Cell, library, administrative office, accounts office, hostels, canteen, security services, transport, maintenance section and all other services.”

4. Committees for the Workshop:-

ADVISORS

Shri Jaipal Meel, Director, SKIT

Dr. S.L. Surana, Director (Academics), SKIT

Mrs. Rachna Meel, Registrar, SKIT

Dr. Ramesh Kumar Pachar, Principal, SKIT

Dr. Anil Chaudhary, HOD (IT), SKIT

Dr. Mukesh Kumar Gupta, HOD (CS), SKIT

RTU (ATU) TEQIP-III COORDINATOR

Dr. Dharendra Mathur

RTU EVENT COORDINATOR

Dr. Harish Sharma

Mrs. Nirmala Sharma

Rajasthan Technical University, Kota

HOST INSTITUTE EVENT COORDINATOR

1. Mr. Sunil Dhankhar

Associate Professor, Department of CSE

Mobile: 8739990083

Email: sunil@skit.ac.in

2. Ms. Anjana Sangwan

Associate Professor, Department of CSE

Mobile: 9413939111

Email: anjana@skit.ac.in

3. Dr. Sunita Gupta

Associate Professor, Department of IT

Mobile: 9828510686

Email: sunita@skit.ac.in

4. Ms. Dolly Mittal

Assistant Professor, Department of IT

Mobile: 9829408543

Email: dolly.mittal@skit.ac.in

5. OBJECTIVE OF FDP

Deep learning also known as hierarchical learning or deep structured learning, is a type of machine learning that uses a layered algorithmic architecture to analyze data. Deep learning has been effectively applied in many fields and has outperformed most of the machine learning methods. Under this background, deep learning based medical data

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analysis emerged. deep learning has demonstrated superior performances in solving many problems in various fields of medicine compared with other machine learning methods. Participants will Learn to how deep learning has surpassed traditional machine learning techniques, like a professional at this workshop.

COURSE PROGRAM

- The program is split into lectures and online hands-on sessions.
- Assignment for enhanced learning
- Online Hands-on experience on basic and advanced topics
- Interaction and learning with experts from academia and industry
- Certificate to the participants by TEQIP III and RTU Kota.

6.CONTENT OF THE FDP

- Introduction to Deep Learning and its Applications
- Hands on Session Python Programming, Numerical Computation with Numpy
- Scientific Computation with Scipy Data Visualization with Matplotlib
- Research Issues in Medical Data Analysis
- Basics of Tensorflow and Keras, Building Computational Graphs and Matrix computations using Tensorflow
- Basics of Artificial Neural Network
- Convolutional Neural Networks
- Implementation of Single-layer Perceptron Network and Multilayered perceptron Neural Networks with Tensorflow and Keras
- Understanding CNN Architecture using Tensorflow and keras
- Brain Computer Interface and its Application

- Image Classification Analysis with Convolutional Neural Networks and ANN in Tensorflow and Keras
- Transfer Learning using VGGNet, Resnet and Inception Net
- Recurrent Neural Networks
- Deep Learning approach for Image classification using Tensorflow Part-II
- Natural Language Processing

OUTCOMES OF THE FDP

Faculties, Researchers have

- Established basic concepts and key components of Deep Learning
- A close look towards the development of Deep Learning and their integrations with different Apps.
- Learned Effective usage Deep Learning for Medical Data Analysis deployment of those in different sectors.
- Analyzed the abilities & limits of the latest techniques and with this they will guide the students regarding the same.
- Understand the concepts of developing Deep Learning for Medical Data Analysis
- Learned to design and apply effective techniques to create Deep Learning for Medical Data Analysis applications under in-house expert guidance.
- Became more familiar with industry environment and reduced the technology gap between Industry and Institute.

7.EXPERT DETAILS

- 1. Mr. Abhinav Mishra**
Data Scientist,
Smiths Detection Systems Private Limited, Bangalore

- 2. Mr Shivam Singh**
Data Scientist
- 3. Mr Sahil Middha**
Data Scientist
- 4. Dr. Sunil Pathak**
Amity University Jaipur
- 5. Mr. Gaurav Singhal,**
Assistant Professor, Bennett University, Greater Noida,
UP
- 6. Dr. Pramod Gaur**
Assistant Professor, BITS PILANI Dubai Campus, Dubai,
UAE.
- 7. Dr Basant Agarwal,**
Assistant Professor, IIIT, Kota
- 8. Mr. Yogendra ,**
Assistant Professor, bansthali vidhyapith

RESOURCE PERSON

The Various sessions of the FDP will be preceded by the experts from reputed institutes and industries.

REGISTRATION FEE

FDP Deep Learning for Medical Data Analysis

There is No Registration Fee.

TARGETED AUDIENCE: Faculty of various engineering institutes affiliated to Rajasthan Technical University, Bikaner Technical University and other academic institutes.

8.FDP SCHEDULE

Day& Date	10.00 – 11.15	11.15 – 12.30	13.30 – 14.45
Sunday 20.12.2020	Introduction to Deep Learning and its Applications Mr. Abhinav Mishra Data Scientist, Smiths Detection Systems Private Limited, Bangalore	Hands on Session Python Programming, Numerical Computation with Numpy Mr Shivam Singh Data Scientist	Scientific Computation with Scipy Data Visualization with Matplotlib Mr Sahil Middha Data Scientist
Monday 21.12.2020	Research Issues in Medical Data Analysis Dr. Sunil Pathak Amity University Jaipur	Basics of Tensorflow and Keras, Building Computational Graphs and Matrix computations using Tensorflow Mr Sahil Middha Data Scientist	Basics of Artificial Neural Network Mr Shivam Singh Data Scientist
Tuesday 22.12.2020	Convolutional Neural Networks Mr. Gaurav Singhal, Assistant Professor, Bennett University, Greater Noida, UP	Implementation of Single-layer Perceptron Network and Multilayered perceptron Neural Networks with Tensorflow and Keras Mr Sahil Middha Data Scientist	Understanding CNN Architecture using Tensorflow and keras Mr Shivam Singh Data Scientist
Wednesday 23.12.2020	Brain Computer Interface and its Application Dr. Pramod Gaur Assistant Professor, BITS PILANI Dubai Campus, Dubai, UAE.	Image Classification Analysis with Convolutional Neural Networks and ANN in Tensorflow and Keras Mr. Yogendra,Assistant Professor,Bansthali Vidhyapith	Transfer Learning using VGGNet, Resnet and Inception Net Mr Shivam Singh Data Scientist
Thursday 24.12.2020	Recurrent Neural Networks Dr Basant Agarwal, Assistant Professor, IIT, Kota	Deep Learning approach for Image classification using Tensorflow Part-II Mr. Yogendra,Assistant Professor,Bansthali Vidhyapith	Natural Language Processing Mr Shivam Singh Data Scientist

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9. Workshop Brochure

FDP COMMITTEE	REGISTRATION	 
<p>Chief Patron Prof. R. A. Gupta Hon'ble Vice-Chancellor, RTU</p> <p>Patron: Shri Raja Ram Meel, Patron, SKIT Shri Surja Ram Meel, Chairman, SKIT</p> <p>Advisor: Shri Jaipal Meel, Director, SKIT Prof. (Dr.) S. L. Surana, Director (Academics), SKIT Mrs. Rachna Meel, Registrar, SKIT Prof. (Dr.) Ramesh Kumar Pachar, Principal, SKIT Prof. (Dr.) Mukesh Gupta, HOD (CSE), SKIT Prof. (Dr.) Anil Chaudhary, HOD (IT), SKIT</p> <p>RTU (ATU) TEQIP-III Coordinator: Prof. (Dr.) Dharendra Mathur</p> <p>RTU Event Coordinator: Dr. Harish Sharma Mrs. Nirmala Sharma</p> <p>Host Institute Coordinators: Mr. Sunil Dhanekar, Associate Professor Ms. Anjana Sangwan, Associate Professor Dr. Sunita Gupta, Associate Professor Ms. Dolly Mittal, Assistant Professor</p> <p>RTU (ATU) TEQIP-III Committee: Prof. D. K. Sambhariya (Nodal Officer Procurement) Dr. S. D. Purohit (Nodal Officer Finance) Dr. Irum Alvi (Conference) Mr. Santosh Sharma (Expert Lecture) Mr. Anshul Bansal (GATE & Induction) Mr. Dinesh Kumar (Workshop)</p> <p>Organizing Committee: Department of CSE & IT, SKIT, Jaipur</p>	<p>To join this FDP, you are requested to register your name by clicking the following registration link or scanning the QR Code:</p> <p>https://forms.gle/5Z6PcQd1foTEqxGU6</p>  <p>Note:</p> <ul style="list-style-type: none"> ✓ The FDP will be conducted through online platform. ✓ The registration for the FDP is on first cum first service basis. ✓ After fill the registration form, please join the Whatsapp group to receive workshop related information. ✓ E-Certificate will be provided to those faculty / students who will attend all the sessions and submit assignments including feedback of FDP. <p>CONTACT US</p> <p>Mr. Sunil Dhanekar Associate Professor, Department of CSE Mobile: 8739990083 Email: sunil@skit.ac.in</p> <p>Ms. Anjana Sangwan Associate Professor, Department of CSE Mobile: 9413939111 Email: anjana@skit.ac.in</p> <p>Dr. Sunita Gupta Associate Professor, Department of IT Mobile: 9828510686 Email: sunita@skit.ac.in</p> <p>Ms. Dolly Mittal Assistant Professor, Department of IT Mobile: 9829408543 Email: dolly.mittal@skit.ac.in</p>	<p>RTU (ATU) TEQIP-III Sponsored Faculty Development Programme On "Deep Learning for Medical Data Analysis"</p> <p>20th – 24th December 2020</p>  <p>Organized by Rajasthan Technical University, Kota & Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur</p>  <p>Host Institute Department of Computer Science & engineering and Department of Information Technology Swami Keshvanand Institute of Technology, Management & Gramothan, Ramnagar, Jagatpura, Jaipur – 302017 Web: www.skit.ac.in</p>

ABOUT TEQIP-III

The project, third phase of Technical Education Quality Improvement Program (referred to as TEQIP-III) is fully integrated with the twelfth five-year plan objectives for Technical Education as a key component for a improving the quality of engineering education in existing institutions with a special consideration for low income states and special category state and support to strengthen few affiliated technical universities to improve their policy, academic and management practices.

RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Rajasthan Technical University (RTU) is located at Kota in the state of Rajasthan. It was established in 2006 by the Government of Rajasthan. The university currently affiliated about 129 engineering colleges, 04 B. Arch, 41 MCA Colleges, 95 MBA Colleges, 44 M. Tech. Colleges and 03 Hotel Management and Catering Institute. The University aims to provide quality technical education which may help Rajasthan in its technical development and will boost technical environment in the country.

ABOUT SKIT

Swami Keshvanand Institute of Technology, Management & Gramothan (SKIT) has been ranked no.1 engineering institute in Rajasthan by RTU, Kota consecutively for the last three years. SKIT is a selective comprehensive institution offering undergraduate and postgraduate programmes in Engineering and Management. The institute was established in the year 2000 by a team of committed professionals and academicians. During all the past years SKIT has emerged as a premier centre of technical education not only in Rajasthan but also in northern India which has been realized through efficient and dedicated faculty members, innovative

teaching learning methods, state of the art infrastructures and core value of discipline. The various undergraduate programmes of the institute are accredited by the National Board of Accreditation (NBA).

DEPARTMENT OF CSE AND IT

The Department is dedicated towards providing its students with a motivating environment and facilitating their academic requirements with committed and expert supervision of faculty and experts from various fields from time to time. The department offers B.Tech (CS) & B.Tech (IT), M.Tech, (CS) and PhD, (CS). The B.Tech degree programme has been accredited by NBA in both CSE and IT. The department Computer Science & Engineering is a recognized Research Centre of Rajasthan Technical University. Organises Spoken Tutorial and NPTEL Certification by IIT Bombay and has Virtual Lab setup by IIT Madras.

ABOUT THE FDP

Deep learning also known as hierarchical learning or deep structured learning, is a type of machine learning that uses a layered algorithmic architecture to analyze data. Deep learning has been effectively applied in many fields and has outperformed most of the machine learning methods. Under this background, deep learning based medical data analysis emerged, deep learning has demonstrated superior performances in solving many problems in various fields of medicine compared with other machine learning methods. Participants will Learn to how deep learning has surpassed traditional machine learning techniques, like a professional at this workshop.

ELIGIBILITY CRITERIA

The FDP is interdisciplinary, and it is open for all the faculties/students of RTU and BTU affiliated Institutes.

WORKSHOP SCHEDULE AND CONTENT

Day & Date	Time	Topic
20-12-2020	10.00 – 11.15	Introduction to Deep Learning and its Applications
	11.15 – 12.30	Research Issues in Medical Data Analysis
	13.30 – 15.00	Hands on Session Python Programming, Numerical Computation with Numpy
21-12-2020	10.00 – 11.15	Scientific Computation with Scipy Data Visualization with Matplotlib
	11.15 – 12.30	Basics of Tensorflow and Keras, Building Computational Graphs and Matrix computations using Tensorflow
	13.30 – 15.00	Basics of Artificial Neural Network
22-12-2020	10.00 – 11.15	Basics of Convolutional Neural Networks, Multilayered perceptron Neural Networks
	11.15 – 12.30	Implementation of Single-layer Perceptron Network and Multilayered perceptron Neural Networks with Tensorflow and Keras
	13.30 – 15.00	Understanding CNN Architecture using Tensorflow and Keras
23-12-2020	10.00 – 11.15	Introduction to Medical image data processing and analysis
	11.15 – 12.30	Image Classification Analysis with Convolutional Neural Networks and ANN in Tensorflow and Keras
	13.30 – 15.00	Natural Language Processing
24-12-2020	10.00 – 11.15	Deep Learning approach for Image classification using Tensorflow
	11.15 – 12.30	Deep Learning approach for Image classification using Tensorflow Part-II
	13.30 – 15.00	Transfer Learning using VGGNet, Resnet and Inception Net

RESOURCE PERSON

The various sessions of FDP will be taken by expert faculties and IT professionals.

REGISTRATION FEE

There is no Registration fee.

10. Participant List

S. No	Email Address	Name	Designation	University/college Name
1	muzafar.rasool@islamicuniversity.edu.in	Dr. Muzafar Rasool Bhat	Assistant Professor (Senior Scale)	Islamic University of Science and Technology
2	pankaj@skit.ac.in	Pankaj Dadheech	Associate Professor	Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur
3	raghavan@psr.edu.in	Raghavan P	Assistant Professor	P S R Engineering College
4	madhavsharma36@yahoo.co.in	Madhav sharma	Assistant professor	VIT Jaipur
5	monu.gupta@skit.ac.in	Monu Gupta	Assistant professor	SKIT JAIPUR
6	shanu.tripathi@skit.ac.in	Shanu Tripathi	Assistant Professor	Swami Keshvanand Institute of Technology, Management & Gramothan

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7	glsaini86@gmail.com	G.L. Saini	Assistant Professor	Amity University Rajasthan
8	dharmendra.kumar@anandice.ac.in	Dharmendra Kumar	Assistant professor	Anand International College of Engineering, Jaipur
9	tkarfet@kiit.ac.in	TEJASWINI KAR	ASSISTANT PROFESSOR	KIIT DEEMED TO BE UNIVERSITY
10	nihar.ranjan@sharda.ac.in	Nihar Ranjan Roy	Associate Professor	Sharda University
11	yadavpoonam1803@icloud.com	POONAM YADAV	Assistant professor	AKTU
12	drsantosh.ece@gmail.com	Santosh Kumar Singh	Professor	JECRC
13	khilesh.milestone@gmail.com	Khilesh Chauhan	Consultant Specialist	RSR RCET, Bhilai
14	rajkumarjagdale@gmail.com	Rajkumar S Jagdale	Research Scholar	Dr. Babasaheb Ambedkar Marathwada University Aurangabad
15	amanjot.kaur@bbsec.ac.in	AMANJOT KAUR	AP	Baba Banda Singh Bahadur Engineering College Fatehgarh Sahib
16	raghavendrapatidar@gmail.com	Dr. RAGHAVENDRA PATIDAR	Professor	Global Institute of Technology, Jaipur
17	nikhar.bhatnagar@skit.ac.in	Nikhar Bhatnagar	Assistant Professor	Swami Keshvanand Institute of Technology
18	binong.j@gmail.com	Juwesh Binong	Assistant Professor	North-Eastern Hill University
19	ushamanasimohapatra@gmail.com	Usha Manasi Mohapatra	Assistant Professor	G.M.University
20	sameer.saxena4@gmail.com	Sameer Saxena	Assistant Professor	Amity University Rajasthan Jaipur
21	shikha.khurana@gdgoenka.ac.in	Shikha	Assistant Professor	G. D. Goenka University
22	anil.swainfcs@kiit.ac.in	Anil Kumar Swain	Assistant Professor	KIIT Deemed to be University, Bhubaneswar
23	tariq380@uok.edu.in	TARIQ AHMAD LONE	Assistant Professor	University of Kashmir
24	zaidbabid@gmail.com	Zaid Bin Abid	Research Scholar	Islamic University of Science and Technology Awantipora
25	sunitamodicollege@gmail.com	SUNITA	Asst. Prof.	Multani Mal Modi College, Patiala
26	sukhwinder.sharma83@gmail.com	Dr. Sukhwinder Sharma	Associate Professor	Lovely Professional University
27	payal.bansal@poornima.org	Dr. Payal Bansal	Associate Professor	Poornima college of engineering Jaipur Rajasthan
28	ushamanasimohapatra@gmail.com	Usha Manasi Mohapatra	Assistant Professor	G.M. University
29	mbeniwal@gmail.com	Mahender Kumar Beniwal	Associate Prof.	Swami Keshvanand Institute of Technology, Management & Gramothan
30	neha.mathur@skit.ac.in	Neha Mathur	Assistant Professor	SKIT

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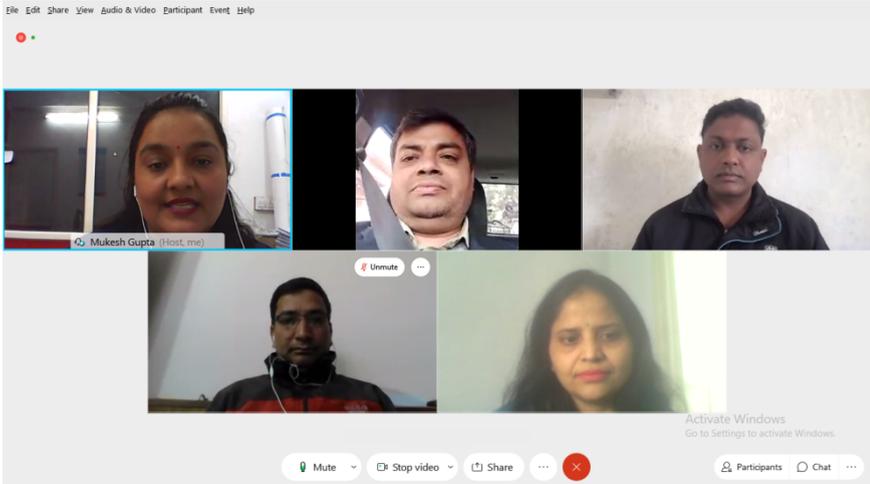
31	prashasti.kanikar@nmims.edu	Prashasti Kanikar	Assistant professor	NMIMS
32	adwitiyamukhopadhyay@gmail.com	Adwitiya Mukhopadhyay	Assistant Professor	Amrita Vishwa Vidyapeetham, Mysuru Campus
33	nisheenasagil@gmail.com	Nisheena V Iqbal	Associate Professor	MES COLLEGE OF ENGINEERING KUTTIPPURAM
34	shanibasmi@gmail.com	Shaniba Asmi P	Assistant Professor	Karpagam Academy of Higher Education
35	sdwjd51@gmail.com	Syed Wajid Aalam	Scholar	Islamic University of Science and Technology
36	girish.paliwal@gmail.com	Girish Paliwal	Assistant Professor	Amity University Rajasthan, Jaipur
37	mohammedarshadam10@gmail.com	Mohammed Arshad	IT Profession	SKIT
38	priyanka@skit.ac.in	Priyanka	Assistant Professor	SKIT, Jaipur
39	aakriti@skit.ac.in	Aakriti Sharma	Associate professor	Swami keshwanand institute of technology, management and gramothan
40	priyanka.sharma@skit.ac.in	Priyanka sharma	Assistant Professor	SKIT
41	avnish.bora@jietjodhpur.ac.in	Avnish Bora	Associate Professor	J.I.E.T.
42	mohapatrakarisma0@gmail.com	Karisma Mohapatra	Research scholar	ITER, SOA DEEMED TO BE UNIVERSITY
43	ashish.pant@skit.ac.in	Ashish Pant	Assistant Professor	SKIT Jaipur
44	mamatanayak@soa.ac.in	Mamata Nayak	Associate Professor	University
45	ssc_jaipur@yahoo.com	Dr.Surendra Singh Choudhary	Professor	Sri Balaji College of Engineering & Technology
46	saswatimohapatra@soa.ac.in	Saswati Mahapatra	Assistant professor	Siksha O Anusandhan Deemed to be University
47	milansamantaray190@gmail.com	Milan Samantaray	Lecturer	Udayanath (Auto) college of science and technology, Adaspur, Cuttack
48	kolhe.abhay@gmail.com	Abhay Kolhe	Assistant Professor	NMIMS
49	sudhansulenka2000@gmail.com	SUDHANSU RANJAN LENKA	Research Scholar	C,V.Raman Global University, Bhubaneswar
50	prabhu.devfcs@kiit.ac.in	Prabhu Prasad Dev	Faculty Associate	KIIT Deemed to be University
51	anilsaroliya1@gmail.com	Dr. Anil Saroliya	Associate Professor	Mody University of Science and Technology
52	dkmohanty.iitkgp@gmail.com	Dr. Dipak Kumar Mohanty	Associate Professor	KIIT deemed to be University, Bhubaneswar
53	contact2ssahoo@gmail.com	Sankarsan Sahoo	Assistant Professor	GITA, Bhubaneswar

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54	sakargupta@gmail.com	Sakar Gupta	Assistant Professor	Poornima College of Engineering, Jaipur
55	sanju@skit.ac.in	Sanju Choudhary	Associate Professor	SKIT, Jaipur
56	shalini.singhal@skit.ac.in	Shalini Singhal	Asst. Prof.	SKIT M&G Jagatpura
57	suchismita.dasfcs@kiit.ac.in	Suchismita Das	Assistant Professor(II)	KIIT Deemed to be University
58	mkmsikar@gmail.com	Mukesh kumar	Lecturer	Govt. Polytechnic college sikar
59	amiya.pandafcs@kiit.ac.in	Dr. Amiya Ranjan Panda	Assistant Professor	Kiit university
60	minakhi.rout@gmail.com	Minakhi Rout	Assistant Professor	KIIT University
61	anjali.pandey@skit.ac.in	Anjali Padey	Assistant Professor	SKIT, Jaipur
62	achin.srivastav@gmail.com	Achin Srivastva	Associate Professor	SKIT, Jaipur
63	sarita104527@gmail.com	Sarita Tripathy		KIIT University
64	suman.sharma.csit@skit.ac.in	Suman Sharma	Assistant professor	SKIT, JAIPUR
65	rashmi.dadhich@skit.ac.in	Rashmi Dadhich	Assistant Professor	Swami Keshvanand Institute of Technology, Management and Gramothan,
66	bishnoisush@gmail.com	Sushila Vishnoi	Associate Professor	Swami Keshvanand Institute of Technology, Management & Gramothan
67	rammurtieic@gmail.com	RAMMURTI Meena	Assistant Professor	Swami Keshwanand Institute of technology management and gramothan Jaipur
68	harpreet@skit.ac.in	Harpreet Singh Gill	Associate Prof	Skit
69	rubal@skit.ac.in	Rubal Deep Gill	Associate Prof	Skit
70	deepa.modi22@gmail.com	Deepa Modi	Assistant Professor	SKIT
71	srdogiwal@skit.ac.in	Sanwta Ram Dogiwal	Associate Professor	SKIT
72	naveen@skit.ac.in	Naveen Jain	Asst prof	Skit
73	nidhi@skit.ac.in	Nidhi Srivastav	Associate Professor	SKIT

11. Glimpses of The FDP

EVENT PHOTOGRAPHS



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Anjana Sangwan Host me Mukesh Gupta Shivam Singh

Documents | Devnagar Classification - Jupyter Notebook | LeNet - Jupyter Notebook | Convolutional Neural Netw... | Classification with CNN - Jupyter Notebook | Jupyter Notebook

localhost:8888/notebooks/Documents/Classification%20with%20CNN.ipynb

For quick access, place your bookmarks here on the bookmarks bar. <https://bookmarks.com>

jupyter Classification with CNN Last Checkpoint: 11/23/2020 (unsaved changes) Logout

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```
print(labels)

Found 14 images belonging to 2 classes.
Found 14 images belonging to 2 classes.
Epoch 1/1
1000/1000 [=====] - 331s 331ms/step - loss: 0.0161 - acc: 0.9941 - val_loss:
1.0960e-07 - val_acc: 1.0000
Saved model to disk
{'Dravid': 0, 'Gambhir': 1}
```

In []: # Part 3 - Making new predictions

```
import numpy as np
from keras.preprocessing import image
from keras.models import load_model
model = load_model('cricketing_legends.h5')

test_image = image.load_img('C:/Users/SHIVAM SINGH/Downloads/Gambhir/Gautam-Gambhir-Team-India.jpg', t
test_image = image.img_to_array(test_image)
test_image = np.expand_dims(test_image, axis = 0)
```

Unmute Start video Share Participants Chat

Type here to search 12:08 PM 12/22/2020

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Anjana Sangwan Host me Mukesh Gupta Shivam Singh

Jupyter Classification with CNN Last Checkpoint: 11/23/2020 (unsaved changes)

```

from keras.preprocessing.image import ImageDataGenerator
train_datagen = ImageDataGenerator(rescale = 1./255)
test_datagen = ImageDataGenerator(rescale = 1./255)

training_set = train_datagen.flow_from_directory('C:/Users/SHIVAM SINGH/Documents/Legends',
                                                target_size = (64, 64),
                                                batch_size = 32,
                                                class_mode = 'categorical')

test_set = test_datagen.flow_from_directory('C:/Users/SHIVAM SINGH/Documents/Legends',
                                            target_size = (64, 64),
                                            batch_size = 32,
                                            class_mode = 'categorical')

labels = training_set.class_indices
model = classifier.fit_generator(training_set,
                                steps_per_epoch = 1000,
                                epochs = 1,
                                validation_data = test_set,

```

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Anjana Sangwan Host me Mukesh Gupta Shivam Singh

Viewing Shivam Singh's app...

Jupyter Classification with CNN Last Checkpoint: 11/23/2020 (unsaved changes)

```

print(labels)

Found 14 images belonging to 2 classes.
Found 14 images belonging to 2 classes.
Epoch 1/1
1000/1000 [=====] - 331s 331ms/step - loss: 0.0161 - acc: 0.9941 - val_loss:
1.0960e-07 - val_acc: 1.0000
Saved model to disk
{'Dravid': 0, 'Gambhir': 1}

In [ ]: # Part 3 - Making new predictions

import numpy as np
from keras.preprocessing import image
from keras.models import load_model
model = load_model('cricketing_legends.h5')

test_image = image.load_img('C:/Users/SHIVAM SINGH/Downloads/Gambhir/Gautam-Gambhir-Team-India.jpg', t
test_image = image.img_to_array(test_image)
test_image = np.expand_dims(test_image, axis = 0)

```

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FDP Deep Learning for Medical Data Analysis

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Anjana Sangwan Host me | Mukesh Gupta | Shivam Singh

Viewing Shivam Singh's app...

jupyter Classification with CNN Last Checkpoint: 11/23/2020 (unsaved changes)

```

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Epoch 1/1
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1.09160e-07 - val_acc: 1.0000
Saved model to disk
({'Dravid': 0, 'Gambhir': 1})

In [ ]: # Part 3 - Making new predictions

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test_image = image.img_to_array(test_image)
test_image = np.expand_dims(test_image, axis = 0)

```

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Cisco Webex Events | Event Info | Hide Menu Bar ^

File Edit Share View Audio & Video Participant Event Help

Anjana Sangwan Host me | Mukesh Gupta | Shivam Singh

jupyter Classification with CNN Last Checkpoint: 11/23/2020 (unsaved changes)

```

In [11]: # Step 3 - Flattening
classifier.add(Flatten())

In [16]: # Step 4 - Full Connection
classifier.add(Dense(output_dim = 128, activation = 'relu'))
classifier.add(Dense(output_dim = 128, activation = 'sigmoid'))

C:/Users/SHIVAM SINGH/Anaconda3/lib/site-packages/ipykernel_launcher.py:3: UserWarning: Update your `
Dense` call to the Keras 2 API: `Dense(activation='relu', units=128)`
This is separate from the ipykernel package so we can avoid doing imports until

In [17]: # Compiling the CNN architecture
classifier.compile(optimizer = 'adam', loss = 'binary_crossentropy', metrics = ['accuracy'])

In [18]: classifier.summary()

```

Unmute | Start video | Share | Participants | Chat

Type here to search | 12:00 PM 12/22/2020

FDP Deep Learning for Medical Data Analysis

फैकल्टी डवलपमेंट प्रोगाम

'डीप लर्निंग फॉर मेडिकल डाटा एनालिसिस' वर्कशॉप आयोजित

जयपुर | एस्केआईटी में आरटीयू (एटीयू) टीईक्यूआईपी-थर्ड के संयुक्त तत्वावधान में 5 दिवसीय



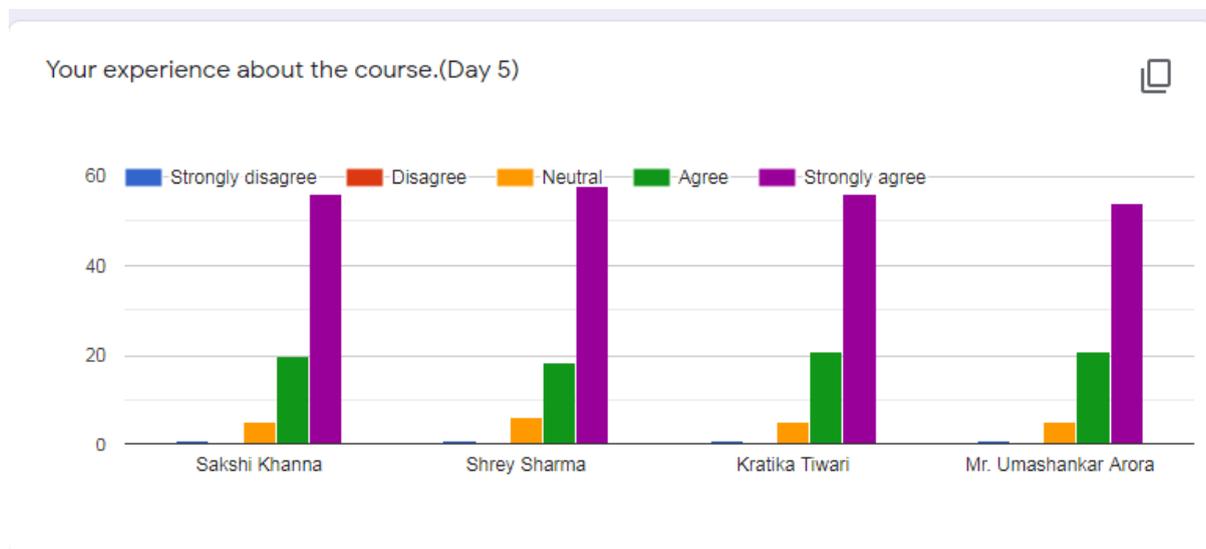
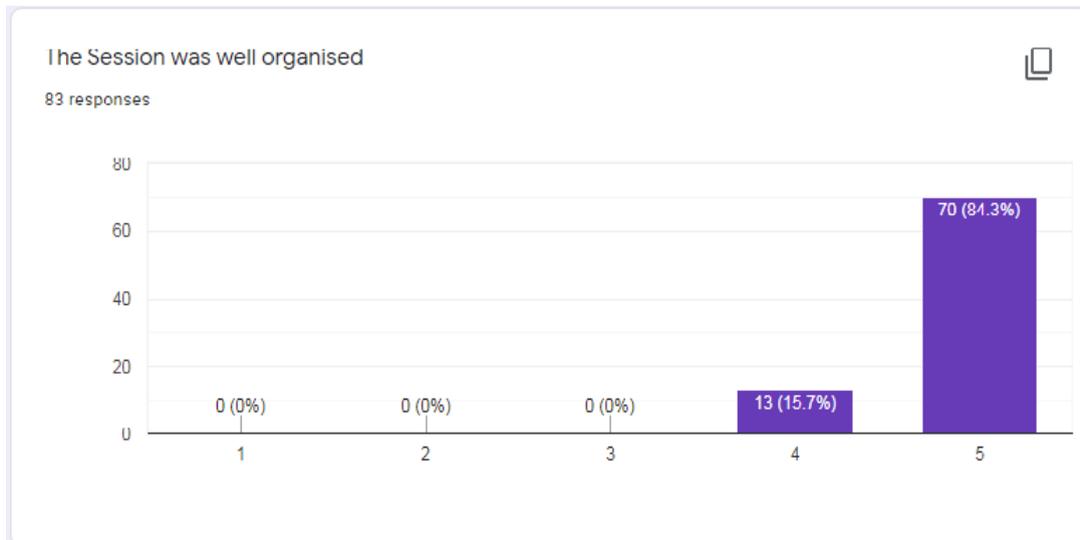
फैकल्टी डवलपमेंट प्रोगाम 'डीप लर्निंग फॉर मेडिकल डाटा एनालिसिस' शुक्रवार को संपन्न हुआ। एस्केआईटी के कंप्यूटर साइंस एंड

इंजीनिरिंग विभाग एवं इनफॉर्मेशन टेक्नोलॉजी विभाग के फैकल्टी सुनील धनखड़, अंजना सांगवान, डॉ. सुनीता गुप्ता, डॉली मित्तल के दिशा निर्देश में यह वर्कशॉप 20 से 24 दिसंबर तक हुई। इसमें देशभर के विभिन्न राज्यों की फैकल्टी ने भाग लिया और डीप लर्निंग की स्वास्थ्य उपयोगिता व सिद्धांतों पर चर्चा कर कोविड परिवेश में इसका महत्व समझया। एक्सपर्ट्स अभिनव मिश्रा, शिवम सिंह, डॉ. गौरव सिंघल, डॉ. सुनील पाठक, डॉ. प्रमोद गौड़, डॉ. बसंत अग्रवाल, डॉ. योगेश ने विशेष व्याख्यान दिए। समापन समारोह में डॉ. मुकेश गुप्ता, विभाग अध्यक्ष (कंप्यूटर साइंस एंड इंजीनिरिंग) ने सभी का धन्यवाद ज्ञापित किया।

पांच दिवसीय फैकल्टी डेवलपमेंट प्रोग्राम का शुभारंभ

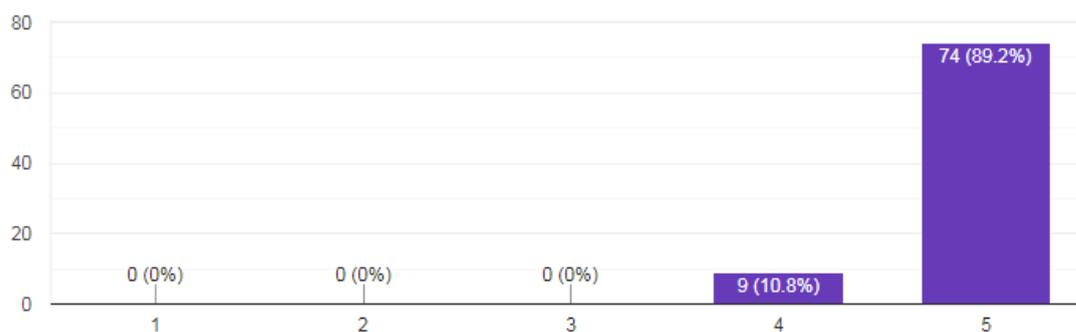
जयपुर, समाचार जगत न्यूज।
आधुनिक युग में वर्तमान परिस्थितियों
के अनुसार आज आईटी इंडस्ट्री में
सेल्सफोर्स टेक्नोलॉजी वर्तमान में
विश्व में सबसे तेज़ी से बढ़ती
टेक्नोलॉजी में से एक है। सेल्सफोर्स
कस्टमर रिलेशनशिप मैनेजमेंट
सर्विस में डील करती है और आज
कस्टमर सर्टिफिकेशन के लिए कई
रिसर्च काम की आवश्यकता को
देखते हुए स्वामी केशवानंद इंस्टीट्यूट
ऑफ टेक्नोलॉजी, मैनेजमेंट एंड
ग्रोथान के डिपार्टमेंट कंप्यूटर साइंस
एंड इंजीनियरिंग एवं इनफॉर्मेशन
टेक्नोलॉजी के द्वारा आरटीयू कोटा के
सहयोग से टीईक्यूआईपी 3 प्रोजेक्ट
के अंतर्गत बुधवार को पांच दिवसीय
फैकल्टी डेवलपमेंट प्रोग्राम का
शुभारम्भ हुआ। इस कार्यक्रम के
अतिथि आरटीयू कोऑर्डिनेटर डॉ.
हरीश शर्मा हैं, जिन्होंने प्रोग्राम का
शुभारम्भ किया और सेल्सफोर्स के
उपयोगिता के बारे में पार्टिसिपेंट्स को
अवगत कराया।

12.FEEDBACK ANALYSIS

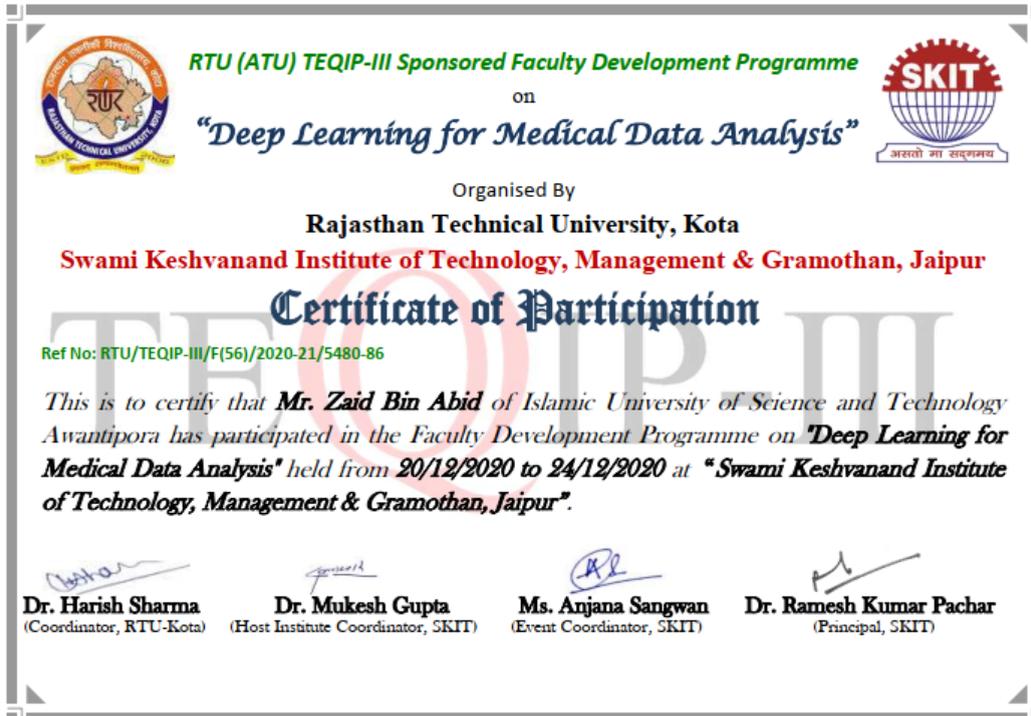


Overall Experience

83 responses



13. Sample of Participant Certificate



14.REPORT OF THE EVENT

Day 1:

Date: 20 December 2020

Session 1: (10:00-11:15)

1. The first session of the first day was taken by **Mr. Abhinav Mishra, Data Scientist, Smiths Detection System, Private Limited Bangalore.**
2. The topic for this session was "Introduction to Deep Learning and its applications".
3. He started the session with the introduction of Deep Learning and role of Deep Learning and Machine Learning.
4. He then discussed why Deep Learning is used and introduce about Perceptron (Building block of Deep Learning).
5. He discussed three constraints or problem in Deep Learning like Big Data, Hardware and Software and also discussed about history of Deep Learning.
6. He explained some common types of Neural Network like Multilayer Perceptron, Convolutional Neural Network, Recurrent Neural Network etc.

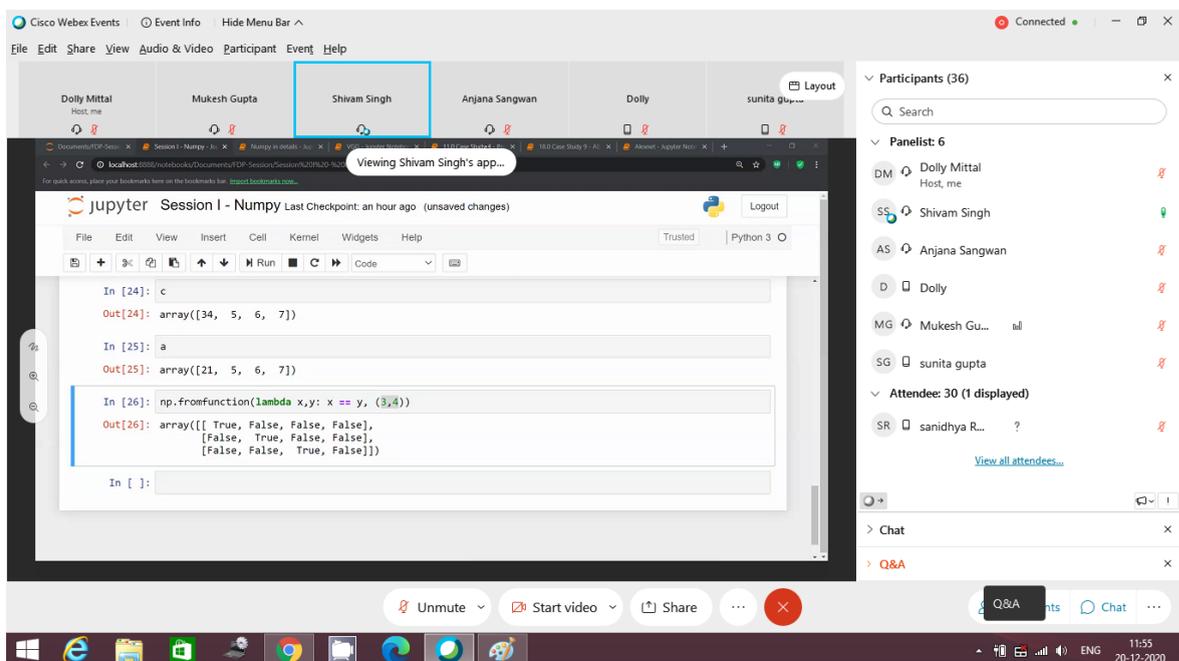
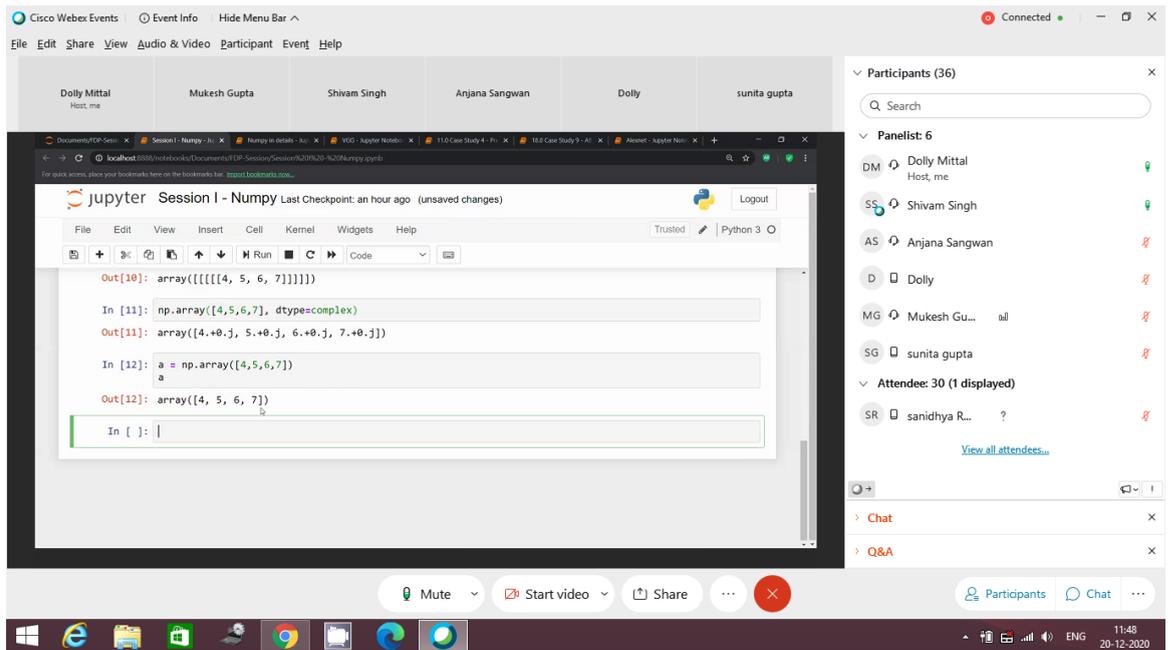
FDP Deep Learning for Medical Data Analysis

7. At last he discussed applications of Deep Learning, common Misconceptions and Myths about Deep Learning.
8. At the end a very healthy question answer session also took place related to the topics covered in the session and research areas on these topics.

The screenshot shows a Cisco Webex meeting interface. The main content area displays a slide titled "Deep + Learning". A blue arrow points from the text "Deep" to a blue box containing the text "Neural network with 2 or more hidden layers". Below this box is a diagram of a neural network with four layers: an input layer, three hidden layers (labeled "hidden layer 1", "hidden layer 2", and "hidden layer 3"), and an output layer. The meeting interface includes a top navigation bar with "Cisco Webex Events", "Event Info", and "Hide Menu Bar". Below the navigation bar are tabs for "File", "Edit", "Share", "View", "Audio & Video", "Participant", "Event", and "Help". A video gallery at the top shows four participants: Mukesh Gupta (Host, me), Abhinav Mishra (active), Anjana Sangwan, and Dolly. On the right side, there is a "Participants (17)" panel with a search bar and a list of participants: Mukesh Gupta (Host, me), Abhinav Mishra (active), Anjana Sangwan, and Dolly. Below the participant list, it says "Attendee: 13 (0 displayed)" and a link "View all attendees...". At the bottom of the meeting window, there are controls for "Unmute", "Start video", "Share", and "Close".

Session 2: (11:15-12:30)

1. The second session of the day was taken by **Mr. Shivam singh, Data Scientist, DVS Web Infotech.**
2. The topic for this session was “Numerical Computation with Numpy in Python Programming” and session started with the introduction of this library.
3. He discussed various methods for creating an array of different dimensions.
4. He then discussed range(), linspace() and logspace() functions for arrays.
5. He discussed random number generation and reshaping of arrays.
6. He discussed subset calculation for arrays .
7. He showed, how to perform various mathematical operations over arrays.



Session 3: (1:30-2:45)

1. The third and final session of the day was taken by **Mr. Sahil Middha, Data Scientist, DVS Web Infotech.**
2. The topic for this session was "Scientific Computation with Scipy, Data Visualization with Matplotlib" and session started with the introduction of these libraries.
3. He discussed various scientific constants for different categories like time, mass etc. available in scipy library.
4. He then discussed how to deal with sparse data while performing computations.

FDP Deep Learning for Medical Data Analysis

5. He showed, how to perform different scientific operations using built in function in scipy.
6. He discussed matplotlib library for visualization purpose, how to represent the statistics using a xy graph.
7. He shared methods to draw bar graph, pie chart, scattered graph etc.

The screenshot shows a Cisco Webex event interface. At the top, there are participant names: Dolly Mittal (Host, me), sahil midha (highlighted), Mukesh Gupta, Dolly, and sunita gupta. The main content is a Jupyter Notebook titled "SciPy Last Checkpoint: 21 hours ago (autosaved)". The notebook has a code cell with the following Python code:

```

In [14]: print(constants.gram)      #0.001
         print(constants.metric_ton) #1000.0
         print(constants.grain)     #6.479891e-05
         print(constants.lb)        #0.45359236999999997
         print(constants.pound)

0.001
1000.0
6.479891e-05
0.45359236999999997
0.45359236999999997

```

Below the code, there are two sections: "Mass:" and "Angle:". The "Mass:" section says "Return the specified unit in kg (e.g. gram returns 0.001)". The "Angle:" section says "Return the specified unit in radians (e.g. degree returns 0.017453292519943295)". The output of the code is displayed below the code cell. At the bottom of the Webex window, there are controls for Unmute, Start video, Share, and a red close button. The system tray shows the time as 13:58 on 20-12-2020.

The screenshot shows a Cisco Webex event interface. At the top, there are participant names: Dolly Mittal (Host, me), sahil midha (highlighted), Dolly, and Mukesh Gupta. The main content is a Jupyter Notebook titled "Untitled Last Checkpoint: a day ago (autosaved)". The notebook has a code cell with the following Python code:

```

plt.title('Info')
plt.xlabel('X-axis')
plt.ylabel('Y-axis')
plt.legend()

plt.grid(True,color='k')
plt.show()

```

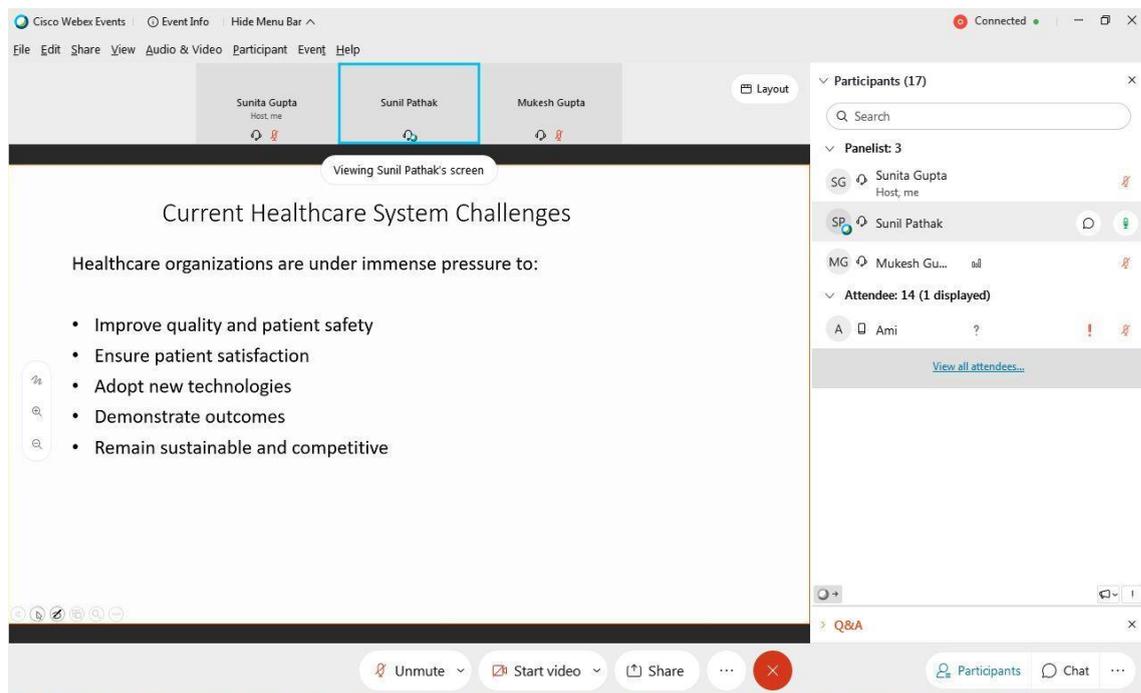
Below the code, a line graph is displayed. The graph has a title "Info", an x-axis labeled "X-axis" with values from 5 to 11, and a y-axis labeled "Y-axis" with values from 6 to 16. There are two lines: "line1" (green) and "line2" (cyan). The data points for line1 are approximately (5, 12), (8, 16), (10, 6). The data points for line2 are approximately (6, 6), (9, 14), (11, 7). At the bottom of the Webex window, there are controls for Unmute, Start video, Share, and a red close button. The system tray shows the time as 14:15 on 20-12-2020.

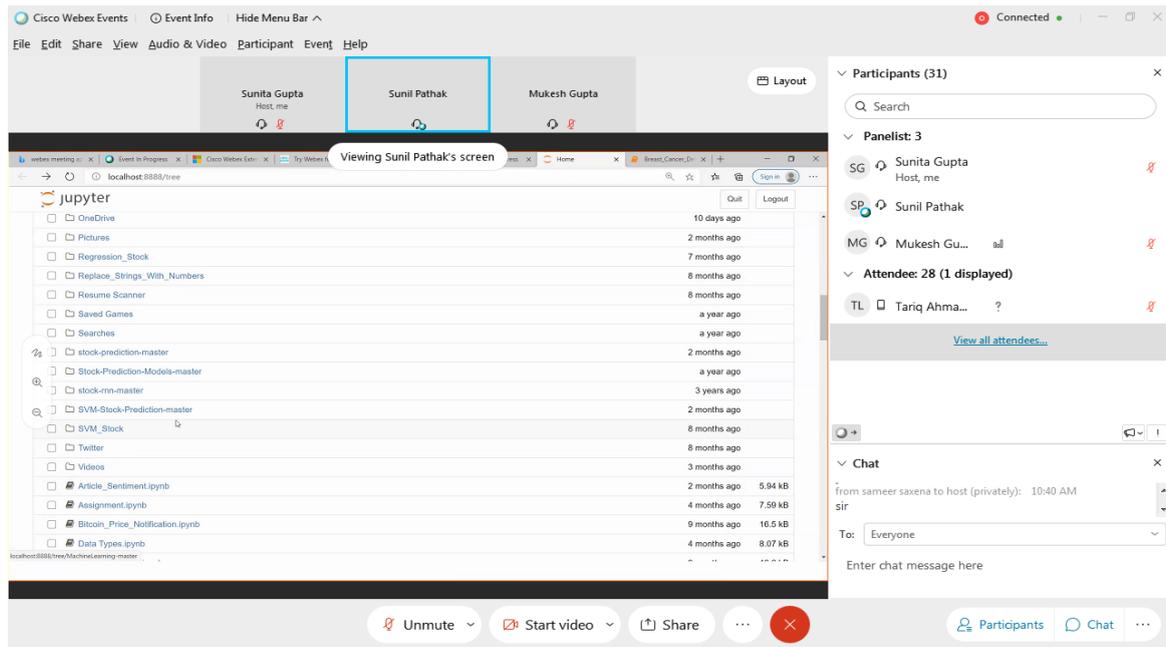
Day 2:

Date: 21 December 2020

Session 1: (10:00-11:15)

1. The first session of the first day was taken by **Dr. Sunil Pathak, Associate Professor, Amity University, Jaipur, Rajasthan.**
2. The topic for this session was “Research Issues in Medical Data Analysis” and session started with the introduction of data analytics.
3. He discussed various Challenges and research issues in Medical Data Analysis .
4. He discussed Gartner’s four types of analytics with example.
5. He discussed different sources of data and how deep learning is used in medical data analysis.
6. He then discussed Data, Information, Knowledge and Wisdom hierarchy.
7. He showed how to work with Jupiter Notebook Interface and explained using breast cancer detection example.
8. At the end a very healthy question answer session also took place related to the topics covered in the session and research areas on these topics.





Session 2: (11:15 am -12:30pm)

1. The II session of the day was taken by **Mr. Sahil Middha, Data Scientist, DVS Web Infotech.**
2. The topic for this session was “Basics of Tensorflow and Keras, Building Computational Graphs and Matrix computations using " and session started with the introduction of these libraries.
3. He explain about tensorflow and its installation and its function with a hands-on session.
4. He then discussed how to deal with sparse data while performing computations.
5. He showed, how to perform different scientific operations using built in function in scipy.
6. He shared methods to draw bar graph, pie chart, scattered graph etc.
7. At the end a very healthy question answer session also took place. Different questions were asked by the participants related to the topic and how to use it etc.

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Mukesh Gupta Host me Sunita Gupta sahil midha Mukesh Gupta

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11:29 AM 12/21/2020

jupyter Intro to Tensorflow Last Checkpoint: 3 hours ago (autosaved)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

research.

Install

As usual, we'll be using Conda to install TensorFlow. You might already have a TensorFlow environment, but check to make sure you have all the necessary packages.

OS X or Linux

Run the following commands to setup your environment:

```
conda create -n tensorflow python=3.5
source activate tensorflow
conda install pandas matplotlib jupyter notebook scipy scikit-learn
pip install tensorflow
```

Windows

And installing on Windows. In your console or Anaconda shell,

```
conda create -n tensorflow python=3.5
```

Cisco Webex Events | Event Info | Hide Menu Bar ^

File Edit Share View Audio & Video Participant Event Help

Mukesh Gupta Host me Sunita Gupta sahil midha Mukesh Gupta

Layout

Viewing sahil midha's applic...

Activate Windows
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Type here to search

11:33 AM 12/21/2020

jupyter Intro to Tensorflow Last Checkpoint: 3 hours ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

py, it will be understood as (type, (1,)) / '(1,)'type'.
np_resource = np.dtype[("resource", np.ubyte, 1)])

```
In [30]: hello_constant = tf.constant('Hello World!')
Out[30]: <tf.Tensor 'Const_15:0' shape=() dtype=string>
```

```
In [3]: import tensorflow as tf
# Create TensorFlow object called tensor
hello_constant = tf.constant('Hello World!')
with tf.Session() as sess:
    # Run the tf.constant operation in the session
    output = sess.run(hello_constant)
    print(output)
b'Hello World!'
```

```
In [4]: tf.__version__
Out[4]: '1.14.0'
```

FDP Deep Learning for Medical Data Analysis

Day 3:

Date: 22 December 2020

Session 1: (10:00-11:15 AM)

1. First session was taken by **Dr. Gaurav Singhal, Assitant Professor, Bennett University, Greater Noida, UP.**
2. The session was about "**Convolutional Neural Network (CNN)**". He started the session with Introduction of Convolutional Neural Network and applications of it like Image Quality Enhancement, Gesture Recognition, Object Detection, Style Transferring, Face Recognition etc.
3. He Explained the difference between CNN and AN and motivation for CNN.
4. He discussed how to train the network and then do the testing. He also discussed the purpose of Convolution in Convolutional Neural Network and how it is used to extract the features from input image.
5. He also discussed some famous CNN Models.
6. He discussed that padding is used to preserve the original dimension of the input and pooling is used to reduce the size of the image.
7. At the end a very healthy question answer session also took place related to the topics covered in the session and research areas on these topics.

Convolution Example

6X6 Matrix (nXn)

3X3 Filter (fXf)

(n-f+1)X(n-f+1)

Participants (29)

Panelist: 3

Chat

Viewing Gaurav Singal's ap...

Pooling

1	4	6	3
1	8	9	7
2	9	1	2
3	4	4	3

8	9
9	4

f=2
s=2 4X4 converted to 2X2

Max Pooling : One example of pooling layer

Function of Pooling is to progressively reduce the spatial size of the representation to reduce the number of parameters and computation in the network.

12/22/2020 Gaurav Singal | CNN | gauravsingal.in 28

Unmute Start video Share

Participants Chat

Participants (33)
Panelist: 4
Attendee: 29 (0 displayed)

Chat
from prashasti kanikar to all panelists: 10:20 AM
yes,we can go for compression
from Mukesh Gupta to sanidhya Rathore (privately): 10:52 AM
your question is not clear

To: sanidhya Rathore

Q&A

Session 2: (11:15 am -12:30pm)

1. The II session of the day was taken by **Mr. Shivam Singh, Data Science Trainer Dvs Web Infortech Pvt.Ltd.**
2. The topic for this session was **“Understanding CNN Architecture using Tensorflow and keras**
3. Basics of Tensorflow and Keras, and session started with the introduction of these.
4. He explains about tensorflow and its function with a hands-on session.
5. He then discussed some real time application and how to use/implement them.
6. He showed how to perform different classification with CNN.
7. He explain different CNN architecture.
8. At the end a very healthy question answer session also took place. Different questions were asked by the participants related to the topic and how to use it etc.

Cisco Webex Events | Event Info | Hide Menu Bar ^

File Edit Share View Audio & Video Participant Event Help

Anjana Sangwan Host, me | Mukesh Gupta | Shivam Singh

Layout

Viewing Shivam Singh's app...

$(10 \times 0 + 1 \times 0 + 2 \times 0 + \dots)$

stride = 1

convolution layer

3x3

0 0 0
-1 -1 -1
1 1 1

54 55 23
27 27 27

Unmute Start video Share Participants Chat

Type here to search

11:37 AM 12/22/2020

Cisco Webex Events | Event Info | Hide Menu Bar ^

File Edit Share View Audio & Video Participant Event Help

Anjana Sangwan Host, me | Mukesh Gupta | Shivam Singh

Layout

Chat

from Usha Mohapatra to host & presenter: 11:59 AM
please switch to jupyter screen, to us it is not visible.
from Usha Mohapatra to host & presenter: 11:59 AM
please share the jupyter screen. It is not visible
from sanidhya Rathore (privately): 12:00 PM
I will download the photo of anything from internet how
will I see in computer
from sanidhya Rathore (privately): 12:02 PM
yes
from Usha Mohapatra to host & presenter: 12:03 PM
what is adam
from sanidhya Rathore (privately): 12:03 PM
I will download the photo of anything from internet
from sameer savena to host (privately): 12:03 PM
why we need flattening and what is benefit of it
from sanidhya Rathore (privately): 12:03 PM
how will I see in computer
from Usha Mohapatra to host & presenter: 12:03 PM
apart from adam what other optimisers are there
from Tariq Ahmad Lone to all panelists: 12:05 PM
can we use any activation function for any problem or
specific functions can be used with specific problems
from Usha Mohapatra to host & presenter: 12:08 PM
what is adam? apart from adam what other
optimisers are there?

To: Usha Mohapatra

Enter chat message here

Activate Windows
Go to Settings to activate Windows.

Unmute Start video Share Participants Chat

Type here to search

12:08 PM 12/22/2020

jupyter Classification with CNN Last checkpoint: 11/23/2020 (autosaved)

print(labels)
Found 14 images belonging to 2 classes.
Found 14 images belonging to 2 classes.
Epoch 1/1
1000/1000 [-----] - 331s 331ms/step - loss: 0.0161 - acc: 0.9941 - val_loss:
1.0960e-07 - val_acc: 1.0000
Saved model to disk
{'Dravid': 0, 'Gambhir': 1}

In []: # Part 3 - Making new predictions

```
import numpy as np
from keras.preprocessing import image
from keras.models import load_model
model = load_model('cricketing_legends.h5')

test_image = image.load_img('C:/Users/SHIVAM SINGH/Downloads/Gambhir/Gautam-Gambhir-Team-India.jpg', target_size=(224, 224))
test_image = image.img_to_array(test_image)
test_image = np.expand_dims(test_image, axis = 0)
```

Session 3: (1:30-2:45)

1. The third and final session of the day was taken by **Mr. Sahil Middha, Data Scientist, DVS Web Infotech.**

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8. The topic for this session was "Implementation of Single-Layer perceptron Network and Multi-Layer perceptron Networks with Tensorflow and Keras" and session started with the introduction of neuron.
9. He discussed about Tensorflow and Keras.
10. He then discussed how to implement the Single-Layer perceptron with Tensorflow and Keras.
11. After he gave the depth knowledge about Multi-Layer perceptron Networks with all mathematical calculations
12. Finally, he implemented Multi-Layer perceptron Networks with Tensorflow and Keras.

Day 4:

Date: 23 December 2020

Session 1: (10:00-11:15)

1. The first session was taken by **Dr. Pramod Gaur, Assistant Professor, BITS Pilani Dubai, Dubai UAE.**
2. The topic for this session was "Brain Computer Interface and its Application" and session started with the introduction of Brain Computer Interface (BCI). BCI is also called Direct Neural Interface (DNI).
3. He explained the principal behind BCI, different parts of our brain, Neuroanatomy of our brain and then an example of BCI.
4. He then discussed Challenges in BCI and how to handle them.
5. He explained brain signals that derive BCI systems and research areas in BCI.
6. He discussed Empirical Mode of Decomposition (EMD), which is used to determine characteristic Time/Frequency scales for the energy.
7. He discussed EMD algorithm. He shows and explains the video of BCI operated exoskeleton.
8. At the end a very healthy question answer session also took place related to the topics covered in the session and research areas on these topics.

Viewing Dr Pramod GAur's ...

BCI Life cycle

Non-invasive recording electrode

Invasive recording electrode

Digitised
001001110001110101011110

Signal processing

Control of external devices
e.g. wheelchair or
cursor on screen or prosthesis

Feedback
e.g. visual, auditory

Participants (24)

Panelist: 3

Attendee: 21 (0 displayed)

Viewing Dr Pramod GAur's ...

Conclusions

- We have explored an application of the empirical mode decomposition (EMD) based filtering method for enhancing performance of a motor imagery based brain-computer interface (BCI).
- The proposed method identifies a combination of IMFs whose mean frequencies fall in the frequency range of μ and β rhythms.
- It has provided improvement in the accuracy of classifying left and right hand MI EEG signals as compared to that without using the EMD method.
- Additionally, we have proposed a sliding window common spatial pattern for enhancing motor imagery classification in EEG-BCI
- In future, it would be of interest to develop new features based on the EMD method for classifying MI EEG signals.

Future Work

Although enhanced feature separability offered by the EMD method has helped reduce the performance deterioration due to EEG non-stationarities to some extent, adaptive classification techniques may be investigated for accounting non-stationarities more effectively.

Participants (30)

Panelist: 3

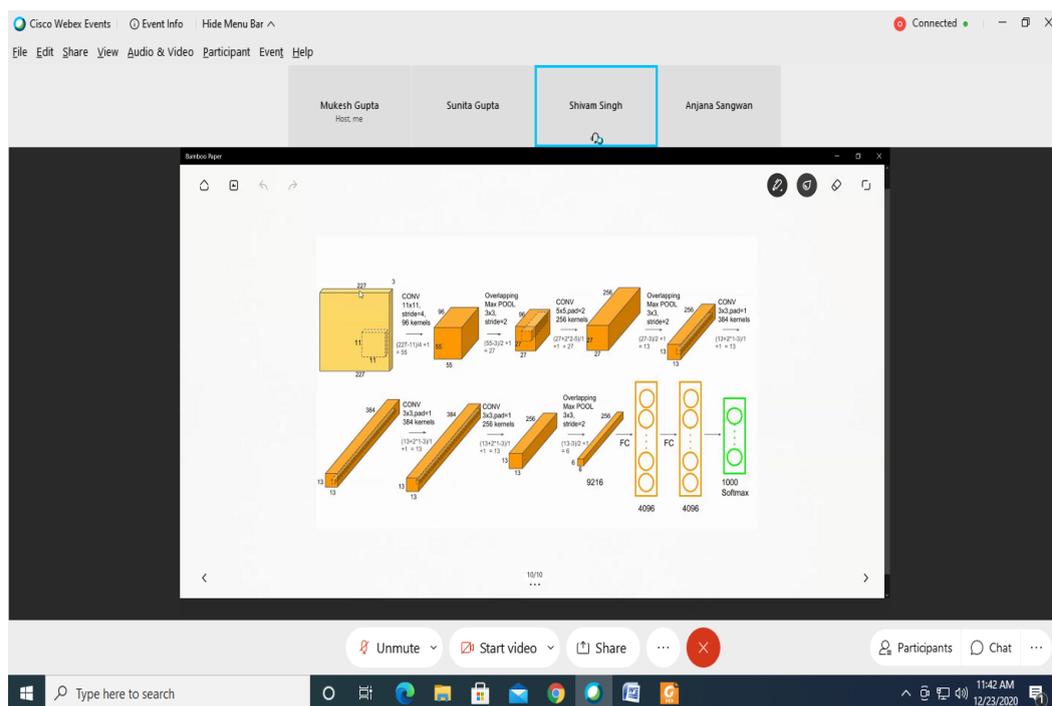
Attendee: 27 (0 displayed)

Session 2: (11:15 am -12:30pm)

1. The II session of the day was taken by **Mr. Shivam Singh, Data Science Trainer Dvs Web Infortech Pvt.Ltd.**

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- The topic for this session was “**Transfer Learning using VGGNet, Resnet and Inception Net**”
- He explains about Alex Net, history, architecture and its function with a examples.
- He then discussed some **VGGNet** in detail with real time application and how to use/implement them.
- He showed some basic questions about VGGNet and their solutions.
- He showed a reaches paper and explain deep learning concept with the help of that.
- He discussed about deep residual networks
- At the end a very healthy question answer session also took place. Different questions were asked by the participants .



Session 3: (1:00-2:00 PM)

- The third and final session of the day was taken by **Dr. Yogesh Gupta, Assistant Professor, Banasthali Vidyapith.**
- The topic for this session was “**Medical Imaging Modalities**” and session started with the introduction of the data sources for medical Imaging.
- He discussed two types of data sources, primary and secondary data sources.
- He then discussed types of medical imaging modalities, which are invasive and non-invasive.
- He showed how to use MRI, CT-Scan, USG and X-Ray for non-invasive imaging modality.

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- He then discussed two formats of medical imaging modalities, which are DICOM and PACS. DICOM is digital imaging and communication in medicine and PACS is picture archiving and communication system. These are the standards for storing, managing, transmitting and printing information in medical imaging.

Types of Medical Imaging Modalities

Invasive Medical Imaging
For the acquisition of invasive modalities doctors need to do some surgical operations.

Non-Invasive Medical Imaging
For the acquisition of Non-invasive modalities doctors does not required to do some surgical operation. They can acquire the data through the external part of the body. Ex: CT-Scan, MRI, USG, X-Rays etc.

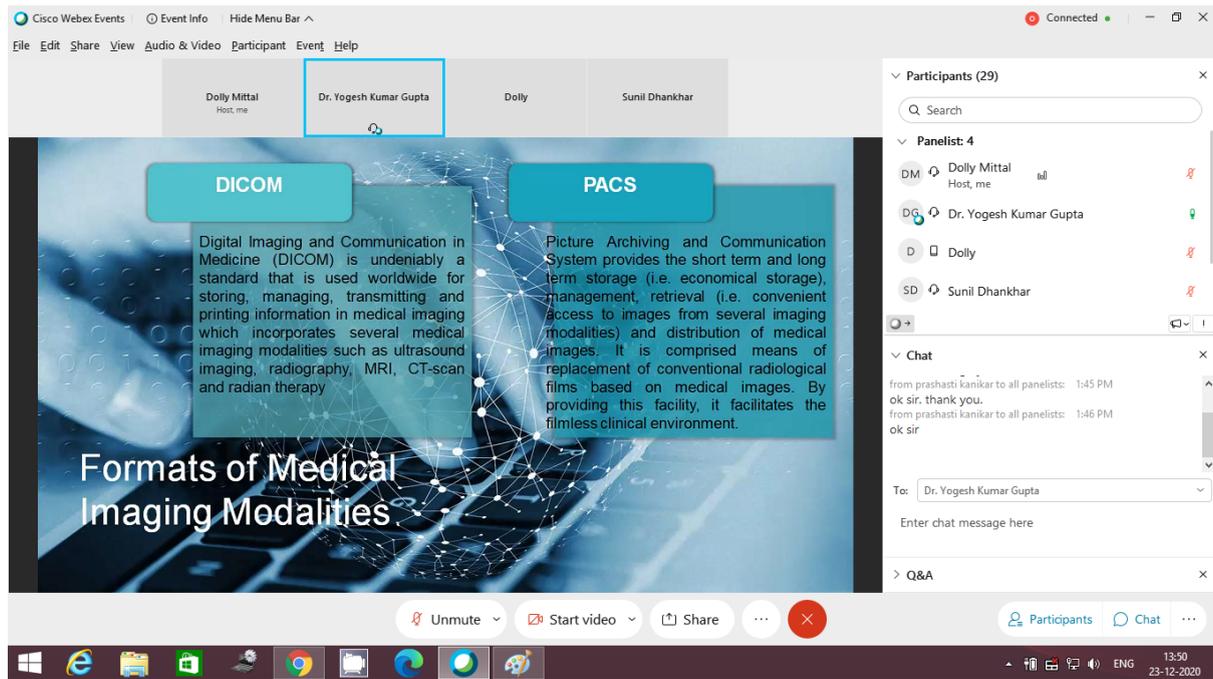
Non-Invasive Medical Imaging Modalities

MRI
To record the internal structure and some portion of function in the body, a non-invasive medical imaging modality such as MRI is significantly used..

CT-Scan
CT-Scan is a diagnostic technology consists of a rotating frame which has two parts; one is an X-Ray tube at one side and a detector at opposite side of the frame.

USG
Ultrasound imaging is very efficient medical imaging technique to ensure the blood circulation in heart and in blood vessels and to check the development of baby inside the uterus. It uses high frequency sound pulses in the range of megahertz and their echoes to generate medical images.

X-Ray
X-Rays are a type of high energy electromagnetic waves which can penetrate many body parts at varying levels such as fat, bones, tumors and other body parts can absorb x-rays at different levels which will reflected in the X-Ray image.



Day 5:

Date: 24 December 2020

Session 1: (10:00-11:15)

1. The first session was taken by **Dr Basant Agarwal, Assistant Professor, IIIT, Kota**.
2. The topic for this session was “**Recurrent Neural Networks**”
3. He start with the basic idea of Sigmoid neuron , Gradient descent Learning with gradient descent, Multilayer Neural Network etc.
4. He explained the principal of **Recurrent neural networks (RNN)-LSTM**.
5. He explain RNN in detail with its properties and Process Sequences
6. He also discussed about different functions of RNN and Computational Graph.
7. He take examples like Character-level Language Model Sampling and explain in a very good manner.He also explains **Architecture for an RNN**. Also discussed Problems in RNN
8. He then discussed LSTM (Long Short Term Memory) The Problem of Long-Term Dependencies .He discussed Architecture for an LSTM and **Implementing an LSTM**
9. At the end a very healthy question answer session also took place related to the topics covered in the session and research areas on these topics.

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Mukesh Gupta Host, me Anjana Sangwan basant agarwal mukesh gupta Sunita Gupta

Participants (29)

Panelist: 5

MG Mukesh G... Host, me

BA basant agarwal

AS Anjana Sangwan

MG mukesh gupta

SG Sunita Gupta

Attendee: 24 (0 displayed)

Chat

To: Everyone

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10:44 AM 12/24/2020

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Mukesh Gupta Host, me Anjana Sangwan basant agarwal Shivam Singh Sunita Gupta

Step-by-Step LSTM Walk Through

- LSTMs: output filtered version of cell state

basant agarwal

$$o_t = \sigma(W_o [h_{t-1}, x_t] + b_o)$$

$$h_t = o_t * \tanh(C_t)$$

Sigmoid layer: decide what parts of state to output
 -Tanh layer: squash values between -1 and 1.
 $o_t * \tanh(C_t)$: output filtered version of cell state

<http://colah.github.io/posts/2015-08-Understanding-LSTMs/>

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11:14 AM 12/24/2020

The screenshot shows a Cisco Webex Events window with a Jupyter Notebook interface. The notebook is titled "Alexnet Last Checkpoint: 06/22/2020 (autosaved)". The table below shows the details of the AlexNet layers:

Size / Operation	Filter	Depth	Stride	Padding	Number of Parameters	Forward Computation
3 * 227 * 227						
Conv1 + Relu	11 * 11	96	4		$(11 * 11 * 3 + 1) * 96 = 34944$	$(11 * 11 * 3 + 1) * 96 * 55 * 55 = 105705600$
96 * 55 * 55						
Max Pooling	3 * 3		2			
96 * 27 * 27						
Norm						
Conv2 + Relu	5 * 5	256	1	2	$(5 * 5 * 96 + 1) * 256 = 614656$	$(5 * 5 * 96 + 1) * 256 * 27 * 27 = 448084224$
256 * 27 * 27						
Max Pooling	3 * 3		2			
256 * 13 * 13						
Norm						
Conv3 + Relu	3 * 3	384	1	1	$(3 * 3 * 256 + 1) * 384 = 885120$	$(3 * 3 * 256 + 1) * 384 * 13 * 13 = 149585280$

Session 2: (11:15-12:30 PM)

1. The third and final session of the day was taken by **Mr. Shivam Singh, Data Scientist**.
2. The topic for this session was “**Natural Language Processing**”.
3. He start with brief history of NLP and why NLP? He give some example of spell correction, search engine etc.
4. He also discussed about The Natural Language Toolkit (NLTK).
5. He took a hands on session to explain different functions of NLP.
6. At the end a very healthy question answer session also took place. Different questions were asked by the participants .

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Mukesh Gupta Shivam Singh Anjana Sangwan Sunita Gupta

jupyter Copy of NLP history Last Checkpoint: 13 hours ago (autosaved)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

media.NLP makes it possible to extend the functionality of these bots so that they are not just advertising a product or services, but can interact with their customers and provide them a unique experience.

In 2015, Uber launched its Facebook messenger bot. This bot make a quick and easy for user to order their cars from the Facebook Messenger app. And it would be too useful for a customer to just type their address and the messenger bot will fetch your address and put it up in their pickup address.

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Mukesh Gupta Shivam Singh Anjana Sangwan Sunita Gupta

jupyter fakenews_AI Last Checkpoint: 11/22/2020 (autosaved)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

```
In [1]: from wordcloud import WordCloud, STOPWORDS
import matplotlib.pyplot as plt
from sklearn import metrics
from sklearn.metrics import confusion_matrix
%matplotlib inline
import seaborn as sns

import numpy as np # Linear algebra
import pandas as pd #data processing

import os
import re
import nltk

In [2]: train=pd.read_csv('./fake-news/train.csv')
test=pd.read_csv('./fake-news/test.csv')

In [35]: train.head()
```

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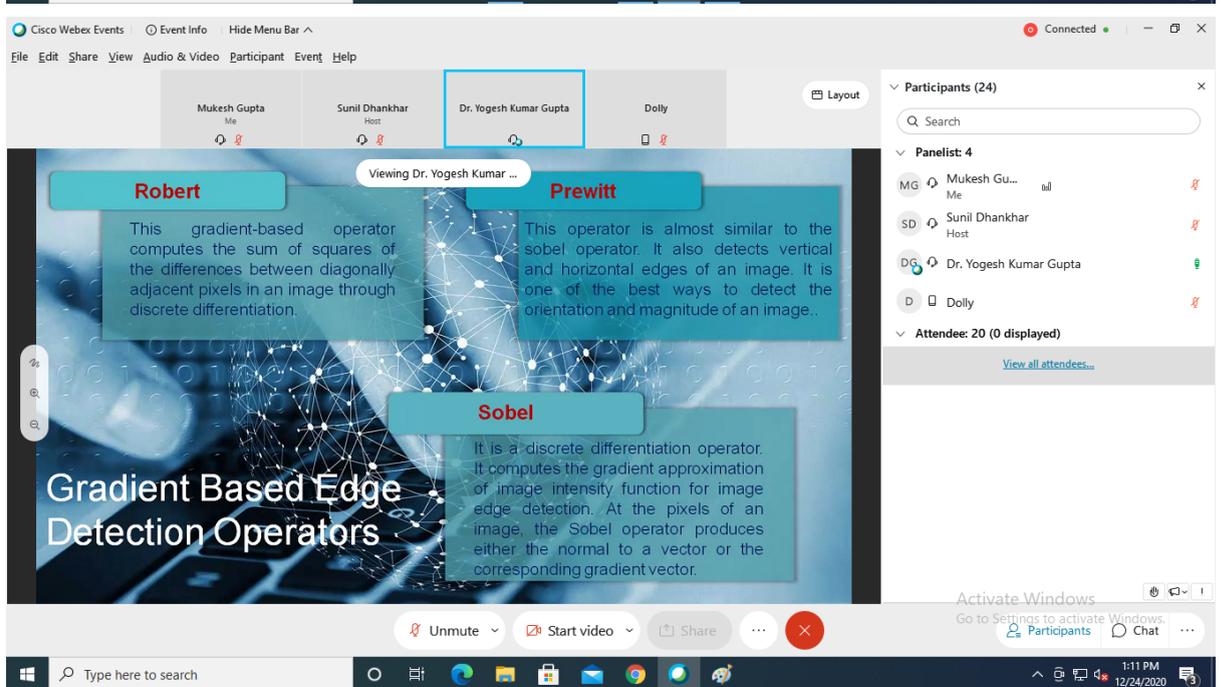
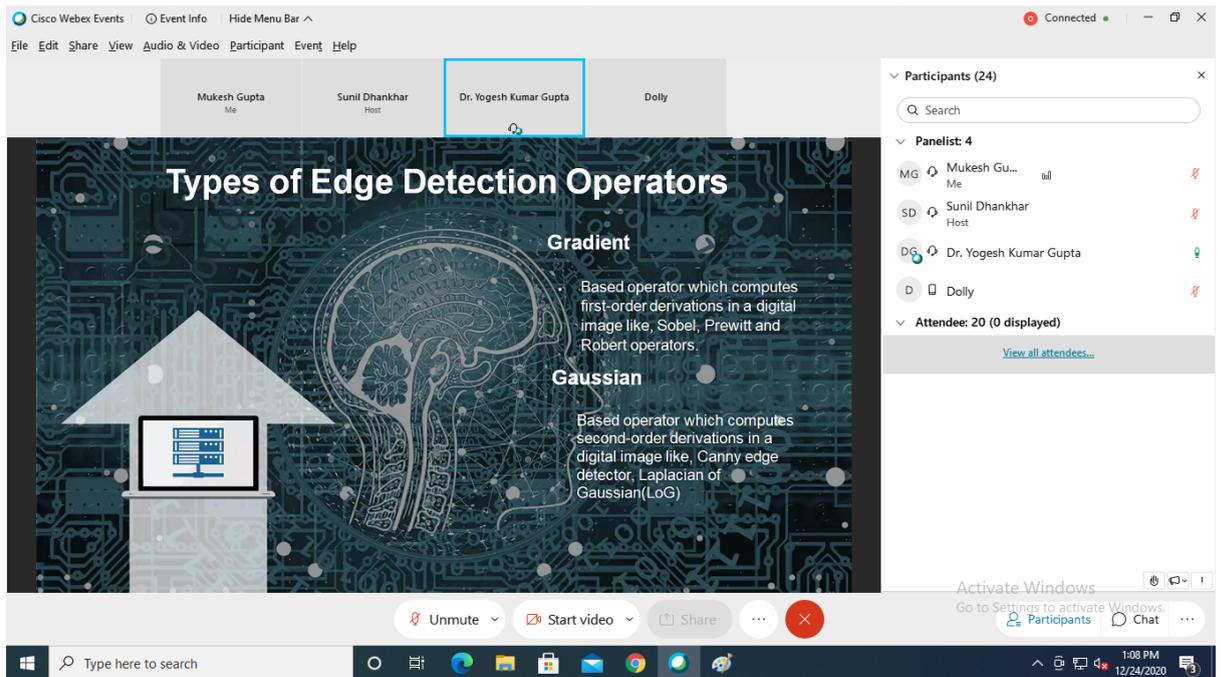
11:36 AM 12/24/2020

Session 3: (1:00-2:00 PM)

1. The third and final session of the day was taken by **Dr. Yogesh Gupta, Assistant Professor, Banasthali Vidyapith.**
2. The topic for this session was “Edge Detection Methods for Finding Object Boundaries in Medical Images” and session started with the introduction edge detection in images.

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3. He discussed two types of edge detection method, Gradient and Gaussian. For Gradient method, he explained three types of operators for edge detection, Robert, Prewitt and Sobel. Of all the three operator, sobel is the best one for edge detection.
4. He then discussed two types of Gaussian methods, Log and Canny. Canny is the best edge detection operator amongst all the gradient and Gaussian operators.
5. He then showed the practical implementation of all the edge detection operators for CT-Scan and MRI images.
6. Next, he discussed various real time applications like face recognition, finger print identification, traffic control analysis etc of edge detection.



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Mukesh Gupta Me Sunil Dhankhar Host Dr. Yogesh Kumar Gupta Dolly

LoG

It is a gaussian-based operator which uses the Laplacian to take the second derivative of an image. This really works well when the transition of the grey level seems to be abrupt.

Canny

It is a gaussian-based operator in detecting edges. This operator is not susceptible to noise. It extracts image features without affecting or altering the feature.

Gaussian Based Edge Detection Operators

Participants (22)

Panelist: 4

- MG Mukesh Gu... Me
- SD Sunil Dhankhar Host
- DG Dr. Yogesh Kumar Gupta
- D Dolly

Attendee: 18 (0 displayed)

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Mukesh Gupta Me Sunil Dhankhar Host Dr. Yogesh Kumar Gupta Dolly

```

1 %Extract Edges from an image
2 img = imread('MRI01.jpg');
3 close all;
4 clear all;
5 A = rgb2gray(img);
6 B = edge(A, 'roberts');
7 C = edge(A, 'prewitt');
8 D = edge(A, 'sobel');
9 E = edge(A, 'log');
10 F = edge(A, 'canny');
11 figure;
12 subplot(231), imshow(A), title('Original Image');
13 subplot(232), imshow(B), title('Roberts');
14 subplot(233), imshow(C), title('Prewitt');
15 subplot(234), imshow(D), title('Sobel');
16 subplot(235), imshow(E), title('Log');
17 subplot(236), imshow(F), title('Canny');

```

Viewing Dr. Yogesh Kumar ...

Participants (27)

Panelist: 4

- MG Mukesh Gu... Me
- SD Sunil Dhankhar Host
- DG Dr. Yogesh Kumar Gupta
- D Dolly

Attendee: 23 (0 displayed)

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