Institute of Technology, Nirma University, Ahmedabad

Computer Science & Engineering Department

Closure Report on Collaborative Teaching – Feb-March -2023

Submitted to: Director IT, NU.

As an activity under COE in Data Science, Computer Science and Engineering Department invited Dr Sang Won Yoon, Professor, Systems Science, and Industrial Engineering, SUNY Binghamton University, New York, USA for collaborative teaching of subject topics related to Deep Learning course offered in current semester. As collaborating teaching, Dr Yoon taught selected topics related to these courses in four hours session. Details are as follows:

Activity Name: Collaborative Teaching

Coordinators: Dr Jaiprakash Verma and Dr Sapan Mankad

(Coordinators for the Activity, COE in Data Science)

Topics	Date and Day	Time	Venue
Industrial Project using Deep Learning, Convolutional Neural Networks for Computer Vision: Image Classification, Image Classification with Localization, Semantic Segmentation, Object Detection.	27-Feb-2023 Monday	10:00 AM to 12:00 Noon B Tech – VI Sem (Elective Subject) – Dr Tarjni Vyas	B – Auditorium
	28-Feb-2023 Tuesday	09:00 AM to 11:00 AM B Tech – VI Sem (Elective Subject) – Prof. Sonia Mittal	B – Auditorium

Summary

Nirma University invited Dr Sang Won Yoon, Professor, Systems Science, and Industrial Engineering, SUNY, Binghamton University, New York, USA to give an idea and demonstration about how Deep Learning works in industry problems to our pre-final year students. Dr. Yoon gave a brief presentation as well as detailed explanation about the projects that he and his team has worked on. Following topics were discussed during his sessions:

SYSTEM SCIENCE: Interdisciplinary research field is based on analyzing and optimizing the existing systems. It has various core ideas. It covers a variety of topics (large scope), uses computations and mathematical modelling. Concept of system movement involves holistic thinking. Health system concentration is an important domain. Agent based modelling behavior is important. The focus of his talk was on health-care systems.

AI/ML/DL: AI is driving force of Industry 4.0. Connectivity is a new concept. Data, hardware and data transmission is better now. AI is similar to a machine thinking like humans.

Machine Learning: Can we train the machine so that it can act and behave as humans? Training usually happens on previously seen data, testing occurs on unknown data. ML mimics human education (training).

Deep Learning: AI has had bad times, as we could not solve big problems. Data is a big issue in DL. We cannot explain why DL gave a particular result. Humans can do, DL model cannot explain themselves. So can AI be trusted? It is an important question which was emerged from his talk.

Concept of Trustworthy AI: Allow more critical decisions for AI. Problem comes first, not the method or solution. Domain knowledge is extremely necessary, else the knowledge is shallow.

Concept of digital twin: In the morning, employees from USA controls the company, whereas in the night time, employees from India control the company. This is the concept of digital twin, which can be useful. The overview of this scenario was demonstrated by Dr Yoon.

HOD (Computer Science and Engineering Department)

Enclosures: 1) Approval 2) Attendance of few sessions 3) Few Selected Photos

Rec. 11/3/2023 JV (5)

Date: February 22, 2023

To,
The Director General,
Nirma University, Ahmedabad.

Subject: Request for permission to invite **Dr Sang Won Yoon, Professor**, Systems Science, and Industrial Engineering, SUNY, Binghamton University, New York, USA for collaborative teaching of subject topics related to Deep Learning course offered in current semester.

Respected Sir,

As an activity under COE in Data Science, Department of Computer Science and Engineering is planning to invite Dr Sang Won Yoon, Professor, Systems Science, and Industrial Engineering, SUNY, Binghamton University, New York, USA for collaborative teaching of subject topics related to Deep Learning course offered in current semester. As collaborating teaching Dr Yoon will teach selected topic related to Deep Learning in six hours session. The course details are attached with this application.

Activity Details: Collaborative Teaching (27-Feb-2023 and 28-Feb-2023)

Course Code	Course Name	Branch	Semester	No of Students
2CSDE61	Deep Learning	B Tech (CSE)	VI	130 (Approx.)

Kindly accept our request to invite Dr Yoon for the collaborative teaching of subject topics related to Deep Learning course. As Dr Yoon does not accept remuneration amount, it is requested to allow us for offering him a memento with the cost of 4000/- from faculty salary budget head of CSE department.

Thanking You,

22/2/2023 22/2/23

Jaiprakash Verma and Sapan Mankad
(Coordinators for the Activity, COE in Data Science)

Through:

HOD (Computer Science and Engineering Department): May be approved 28/2

Dy Registrar (IT-NU):

Director, (IT-NU): 24/2

I/c.

Approved 28/2

Dr JV/SHM, 1/3

1055 ; 13+5+ 1/2/23

Planning of subject topics related to Deep Learning course to be covered by Dr Yoon:

Topics	No of Hours	Date and Day	Time	Venue
Industrial Project using Deep Learning, Convolutional Neural Networks for Computer Vision: Image Classification, Image Classification with Localization, Semantic Segmentation, Object Detection.	06	27-Feb-2023 Monday & 28-Feb-2023 Tuesday	9:00 AM to 12:00 Noon B Tech – VI Sem (Elective Subject)	B – Auditorium

22/02/2023 22/2/23

Jaiprakash Verma and Sapan Mankad
(Coordinators for the Activity, COE in Data Science)

Date 28/12/23
time 9 to 11

Roll No.	Name	Sign
20BCE042	Aryan Charda	
20BCE055	Devyanika Chudasama	
20BCE064	Dhyan Patel	
20BCE082	Utir Makhrolia	
20BCE010	Alidsgar Badaria	
20BCE114	Jwal Shah	
20BCE073	Kunj Gandhi	
20BCE076	Yash Gohel	
20BCE080	Karan Gondaliya	
20BCE075	Yash Ginoya	
20BCE034	Sahil Borad	
20BCE078	Kunjan Gokani	
20BCE052	Dev Bhatt	
20BCE113	Jugal Patel	
20BCE115	Kahan Jash	
20BCE117	Rohit Kansagara	
20BCE068	Diya Patel	
20BCE302	Utsav Harichaari	
20BCE303	Mayus Vadhadiya	
20BCE149	Sahj Patel	
20BCE286	Surgj Sajeev	
20BCE268	Shail Kamleeh	
20BCE100	Jainik Bakshi	
20BCE092	Himanshu Vadher	
20BCE105	Jayneel Shah	
20BCE101	Jainish	
20BCE133	Madhav	
20BCE107	Jimil	

20BCE023	Kanav Avasthi	[illegible]
20BCE005	Aditya Paonga	[illegible]
20BCE014	Anuj Shah	[illegible]
20BCE018	Aryan mehta	[illegible]
20BCE086	Harshal	[illegible]
20BCE055	Devansh Shah	[illegible]
20BCE002	Aaryan	[illegible]
20BCE057	Devasy Patel	[illegible]
20BCE007	Aditya Singh	[illegible]
20BCE012	Meet Amin	[illegible]
20BCE017	Akash Arya	[illegible]
20BCE024	Avi Tayal	[illegible]
20BCE011	Amaan Mansuri	[illegible]
20BCE079	~~Gorav~~ gaurav golcha	[illegible]
20BCE013	Anerya Patel	[illegible]
20BCE049	Dev Shah	[illegible]
20BCE059	Dhara Raval	[illegible]
20BCE093	Anzela mirza	[illegible]
20BCE020	Aryan Pandit	[illegible]
20BCE143	Maitri Patel	[illegible]
20BCE070	Dhruv Bansi	[illegible]
20BCE060	Dhruv Patel	[illegible]
20BCE062	Dhruv	[illegible]
20BCE052	Dev Bhat	[illegible]
20BCE034	Chintan	[illegible]
20BCE061	Dhruv	[illegible]
~~20BCE[illegible]~~	~~[illegible]~~	[illegible]
20BCE065	Dirgha	[illegible]
20BCE003	abitamim	[illegible]
20BCE048	Deep	[illegible]
20BCE077	Maarmik	[illegible]

Faculties:

i) Keval Jodhani (ii) Saurin Parekh (iii) Jigna Patel

Zunnun Sir, Ajay Patel, Daiwat Vyas