



Department of Computer Science
P.G.D.A.V. College (M)
University of Delhi

<http://www.pgdaycollege.edu.in>

is organising

ONE WEEK ONLINE
FACULTY DEVELOPMENT PROGRAMME
On

Natural Language Processing
and Its Applications

in collaboration with

MAHATMA HANSRAJ FACULTY DEVELOPMENT CENTRE

(A Centre of MoE, Govt. of India under PMMMNMTT Scheme)

HANSRAJ COLLEGE

(NAAC A+ CGPA 3.62)

University of Delhi

Mahatma Hansraj Marg, Malka Ganj, Delhi-110007

<https://www.hansrajcollege.ac.in>

Dates:

March 5, 2022 to March 11, 2022

Last Date to Register:

March 2, 2022

Live Sessions:

09:30AM to 12:45PM

Registration Link:

<https://bit.ly/32La7TV>



<https://www.mhrfdc.in/>



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@hrcduofficial

About PMMMNMTT

The Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching emphasizes the need to change the role and working of a teacher from mere the disseminator of information and knowledge to the one who advances frontiers of existing knowledge by actively developing and creating new insights into diverse social and physical phenomena.

About Hansraj College



Hansraj College is one of the largest constituent colleges of the University of Delhi and has been ranked as one of the top five colleges for science, arts and commerce several times in the last decade. The faculty and students of the college have contributed immensely to the fields of academics, sports and culture. The college faculty is dedicated towards the growth and development of the institution academically and administratively and constantly thrive for excellence. Hansarians have been placed in diverse professions and services worldwide and are bringing fame and laurels to the institution.

About P.G.D.A.V. College & IQAC



Pannalal Girdharilal Dayanand Anglo-Vedic (P.G.D.A.V.) College founded in the year 1957-58 is one of the oldest constituent colleges of the top ranking University of Delhi. It is co-educational and NAAC accredited institution. It is well known in excellence not only in academics but also in sports and other co-curricular activities. The college has eleven teaching departments offering undergraduate courses of University of Delhi in the broad disciplines of Arts, Commerce and Mathematical Sciences. It also offers post graduate programmes in four subjects, viz. Commerce, Hindi, Mathematics and Political Science. It is also the study centre for the students of School of Open Learning, University of Delhi, the Non-Collegiate Women's Education Board, University of Delhi and Indira Gandhi National Open University. Over the years college has emerged as a centre of excellence under stewardship of it's highly qualified, experienced and dedicated faculty. College has premium infrastructure facility which includes well equipped library with INFLIBNET facility, interactive smart classes, high speed Wi-fi internet access, availability of computers in a student ratio of 1:4, Digital language lab, UGC Network Resource centre, Centralized computing facility. The Internal Quality Assurance Cell (IQAC) of P.G.D.A.V. College has been actively pursuing quality development and improvement goals in academic, administrative and financial realms to deliver excellence in all it's endeavours. The cell has calendar full of forthcoming events that will act as enablers and facilitators of quality management, especially in the sphere of dissemination and creation of knowledge.

About the Programme

"Alexa, play my favorite song?"

Yes, this is how so many of us listen to our favourite songs nowadays. One or the other time we all have used Google translator to get a document translated from one language to another.

Natural Language Processing (NLP) is what made all this possible. NLP is a field which strives to enable machines understand and respond to the natural language (text or voice) as used by humans.

Natural Language Processing and its applications, the one week Faculty Development Programme (FDP), has been designed to enlighten the faculty members and researchers with the state-of-the-art technology Natural Language Processing (NLP). The objective of this FDP is to give an insight about NLP and how machine learning algorithms can be applied on textual data. Latest developments in the field of NLP with Sequence models from RNN and Transformers will also be discussed. Hands-on sessions will be held using Python.

Expected Outcomes of the programme:

1. Understanding what natural language is and how it is different from other types of data.
2. Understanding the challenges while working with natural languages.
3. Acquaintance with how machine understands and processes the human language.
4. Application of various Machine Learning and Deep learning algorithms on textual data.
5. Applications of NLP and latest research areas in NLP.

Eligibility:

The programme is interdisciplinary and is open to all the interested participants. All faculty members (regular/ ad-hoc/ temporary/ guest) and Research Scholars from any university/college are eligible to participate.

ONE WEEK INTERDISCIPLINARY (ONLINE) FACULTY DEVELOPMENT PROGRAMME

on

Natural Language Processing and its Applications (March 5 to March 11, 2022) PROGRAMME SCHEDULE

Date	Time	Topic	Resource Person
05/03/22 Saturday	9:30am-9:45am	Inauguration	Dr. Jyoti Pareek Professor & Head Department of Computer Science, Gujarat University
	9:45am-11:00am	Machine Learning and its applications – an Introduction	
	11:15am-12:45pm	Why NLP?	
07/03/22 Monday	9:30am-11:00am	- <i>Introduction to NLP</i> - <i>Text Processing & Pre-processing:</i> Tokenization; Normalization of Words: Stemming, Lemmatization, Bag of Words , TF-IDF, Regular Expressions	Ms. Mamta Sharma Professor, SIES College of Management Studies, Navi Mumbai
	11:15am-12:45pm	Hands on Session	
08/03/22 Tuesday	9:30am-11:00am	<i>Language Models:</i> N-Grams; Perplexity; The Use Of Language Models: Input Prediction, Error Correction	
	11:15am-12:00pm	<i>Parsing</i> Context-free Grammar, CKY algorithm	
	12:00pm-12:45pm	Hands on Session	
09/03/22 Wednesday	9:30am-11:00am	<i>Computational semantics:</i> Word Senses and Meanings; Wordnet; Semantic Similarity Measures: Thesaurus-Based and Distributional Methods, Vector Space Models Of Semantics: Word2vec and Doc2vec Word Embeddings	
	11:15am-12:45pm	Hands on Session	
10/03/22 Thursday	9:30am-11:00am	<i>NLP with Sequence Models :</i> Recurrent Neural Networks (RNN)	
	11:15am-12:45pm	<i>NLP with Sequence Models:</i> LSTM, GRU , Transformers	
11/03/22 Friday	9:30am-11:00am	<i>Machine Translation (MT)</i> - Issues and challenges	Dr. Madhavi Saxena Associate Professor, Computer Science and Engineering, BITS Mesra
	11:05am-12:15pm	Evaluation of MT systems in Indian languages	
	12:15pm-12:45pm	Valedictory	

Note: Hands-on sessions will be conducted using Python. To install Anaconda open source individual edition, the link is <https://www.anaconda.com/products/individual>

Registration Details

- Participants are required to fill the registration form using the following link (Please ensure that you have payment proof before filling up registration form).

Registration link: <https://bit.ly/32La7TV>

- Participants are required to pay the registration fee of **Rs. 500** via **NEFT/IMPS/UPI** to the following account:

Account: Principal, Hansraj College, FDC

Bank: Canara Bank, Hansraj College, Delhi

Type of Account: Savings

Account number: 2848101019873

IFSC: CNRB0002848

Note: Fee is Non-Refundable.

- The **last date** for registration is: **March 2, 2022**
- Participants will be informed by: **March 3, 2022**
- Attendance norms are strict. Participants are required to clear the assessment component for getting the **e-certificates**.
- Further details will be communicated to the registered participants.

Organising Committee

MHRFDC TEAM

Prof. (Dr.) Rama
Principal, Hansraj College
&
Chairperson, MHRFDC

Dr. Jyoti Bhola
Coordinator, MHRFDC

Mr. Ashutosh Yadav
Dy. Coordinator, MHRFDC

P.G.D.A.V. COLLEGE TEAM

Chief Patron
Prof. Krishna Sharma
Principal, P.G.D.A.V. College

Ms. Anu Kapoor
IQAC Coordinator, P.G.D.A.V. College

FDP Convenor
Dr. Veenu Bhasin
Department of Computer Science,
P.G.D.A.V. COLLEGE

FDP Coordinator
Dr. Geeta Aggarwal
Department of Computer Science,
P.G.D.A.V. COLLEGE