

## Course Overview

We have seen in the past decade that statistical models have already proved themselves thereby revolutionizing the world but with a major drawback of explainability and interpretability by human. The statistical models are very good at learning in a static world and executing low-level patterns, provided they are fed with a lot of data. More deep, more intelligent, and of course more black. There are a number of instances where DL has produced delusional and unrealistic results. Accuracy alone is not sufficient; we require exploring ways of opening the black box of statistical models. When DL researchers are asked to open the black box, this today implies less intelligent models to them (limited capability).

The traditional symbolic approaches (the so-called Good Old Fashioned AI) manage structured knowledge very well and result in a pool of machine-interpretable, linked, open-access, and interoperable knowledge over a wide range of domains. The symbolist approach is nowadays manifested as a knowledge graph.

**Registration Fee: NIL**

## This workshop is unique in several respects:

- This workshop discusses what is going on in knowledge-based systems' research and brings it in an easy-to-understand manner for the non-experts in this field.
- The workshop will be more of hands-on.
- After doing this workshop, a novice in the field of computer science can get a hands-on to how to utilize the semantic technologies for real world problems.

As semantic intelligence and its applications is entering the newest curricula at education institutions worldwide, and not many workshops and FDPs pertaining to same are available; it is high time to introduce such a workshop which can serve as reference for concerned.

**Prerequisite:** The participants must know at least one programming language.

**Registration:** Please fill both the forms

<https://atalacademy.aicte-india.org/signup>

<https://forms.gle/HbwAP4F8AZtZeke4A>



## Semantic Intelligence: The Way Forward with Artificial Intelligence (Part I)

**1-5 July 2021**

Sponsored by AICTE Training and Learning (ATAL) Academy

Department of Computer Applications,  
National Institute of Technology Kurukshetra  
(Institute of National Importance)

**Coordinator**

**Dr. Sarika Jain**

Email: [jasarika@nitkkr.ac.in](mailto:jasarika@nitkkr.ac.in)

Mobile: 8950777202

## Session wise Time Schedule

### Day 1

Welcome address to participants

Semantic Intelligence: An Approach towards Artificial General Intelligence

Tea Break and discussion

Knowledge Representation and Storage (Relational DBs, NoSQL DBs, Vocabularies, RDF Triple Stores, Graph Databases)

LUNCH

Hands On Ontology Engineering (Designing and Building Ontologies with Protege Editor)

### Day 2

Hybrid Approach for Effective knowledge Representation

Tea Break and discussion

Knowledge Graph Construction: An Overview

LUNCH

Hands-on: Knowledge Graphs as applied to Industrial Applications

### Day 3

SPARQL Query Language

Tea Break and discussion

Hands On SPARQL: Querying Knowledge Graphs using SPARQL; Querying DBpedia

LUNCH

Hands On SPARQL (Part II): Querying Knowledge Graphs using SPARQL; Querying Wikidata

### Day 4

Perspectives of Visual Semantics

Tea Break and discussion

Hands-on Perspectives of Visual Semantics

LUNCH

Session to promote FIT INDIA Movement across the country

### Day 5

RDF Storage and Retrieval Systems; Reasoning; Ontology Mapping

Tea Break and discussion

The Road Ahead: Using Semantic Technologies for Explainable AI

LUNCH

Valedictory Session

Here is the last years FDP: <https://youtube.com/playlist?list=PLOR40vp3ig9d9aJ5j5NrJvjq16mo1zow> Though, this is not a prerequisite but better to go through these videos to have an idea of "Semantic Intelligence".

## Resource Persons

Distinguished and Learned persons from institutes of repute including IITs, NITs and experts from related industries will be the resource persons for the FDP.

### ACADEMICS:

- V. Raghava Mutharaju, IIIT Delhi
- Abhijnan Chakraborty, IIT Delhi
- Biswanath Dutta, ISI Bangalore
- Sarika Jain, NIT Kurukshetra

### INDUSTRY:

- Vishal Lama, Software Developer, Amdocs
- Asha Subramanian, Semantic Web India
- Arindam Chatterjee, Wipro AI Labs
- Sumit Bhatia, IBM Research Lab
- Hiranmay Ghosh, TCS Research

## Important Information for participants:

This FDP is only for faculty members & research scholars (Ph.D. & PG) of AICTE approved technical institutions. Course Registration is free for all participants. On completion of the course, an objective assessment of all participants will be done.



# One Week Online FDP on Semantic Intelligence:

## The Way Forward with Artificial Intelligence (Part I)

June 1-5, 2021

Organized by

National Institute of Technology Kurukshetra  
(Institution of National Importance)

Sponsored by

All India Council for Technical Education, Government of India  
Under  
AICTE Training & Learning (ATAL) Academy

**Patron:**

Dr. Satish  
Kumar

Director

NIT

Kurukshetra

**Coordinator:**

Dr. Sarika  
Jain

Assistant  
Professor

NIT

Kurukshetra



V. Raghava  
Mutharaju  
IIIT Delhi



Sumit Bhatia  
IBM Research  
Lab



Hiranmay  
Ghosh  
TCS Research



Sarika Jain  
NIT  
Kurukshetra



Abhijnan  
Chakraborty  
IIT Delhi



Biswanath  
Dutta  
ISI Bangalore



Vishal Lama,  
Software Developer  
Amdocs



Asha  
Subramanian  
Semantic Web Indi



Arindam  
Chatterjee  
Wipro AI  
Labs

**Who can register?** The faculty members of the AICTE approved institutions, research scholars, PG Scholars, participants from Government, Industry (Bureaucrats/Technicians/Participants from Industry etc.) and staff of host institutions. Not more than 30% from Host Institution.

**Registration:** Please fill both the forms

<https://atalacademy.aicte-india.org/signup>

<https://forms.gle/HbwAP4F8AZtZeke4A>

**Registration Fee: NIL**