

About the Programme

Artificial Intelligence is an important technology helping machines to think like humans. AI is growing at an exponential rate. Availability of more computation power with the upcoming of parallel processing unit such as GPUs, generation of huge volumes of data from sources such as social media, IoT devices is bringing rapid growth in AI as an economy. Many companies have already started investing in AI. AI includes machine learning, deep learning, natural language processing, computer vision, expert systems, knowledge based systems, planning and optimization, robotics, autonomous systems and so on.

This course will give an opportunity to gain expertise in one of the most fascinating and rapidly growing areas of Computer Science through classroom program that covers compelling topics related to machine intelligence and its applications in industry, defence, healthcare, agriculture and many other areas.

After completion of this course, participants will be able to:

- Build intelligent agents for search and games
- Solve AI problems through programming with Python
- Learning optimization and inference algorithms for model learning
- Design and develop programs for an agent to learn and act in a structured environment

ATAL Academy

AICTE Training and Learning (ATAL) Academy is established with the vision "To empower faculty to achieve goals of Higher Education such as access, equity and quality". First AICTE Training And Learning (ATAL) Academy and NWRO (Camp Office) of AICTE in Jaipur was digitally announced with establishment of its other centers in the country at Jaipur, Vadodara, Guwahati & Trivandrum. Also, ATAL academies are announced where AICTE Camp offices are situated. ATAL academy will conduct a series of workshops in thrust areas identified by AICTE.

Topics

- **Introduction:** Concepts of AI, Agents, Environments, Problem Formulations, Review of Tree and Graph Structures, State Space Representation, Search Graph and Search Tree.
- **Search Algorithms:** Random Search, Search with Closed and Open list, DFS and BFS, Heuristic Search, Best First Search, A* Algorithm, Game Search.
- **Probabilistic Reasoning:** Probability, Conditional Probability, Bayes Rule, Bayesian Networks, Temporal Model, Hidden Markov Model.
- **Markov Decision process:** MDP Formulation, Utility Theory, Utility Functions, Value Iteration, Policy Iteration and Partially Observable MDPs.
- **Reinforcement Learning:** Passive RL, Direct Utility Estimation, Adaptive DP, Temporal Difference Learning, Active Reinforcement Learning- Q Learning.
- **Case studies**

Eligibility

The participants of the course will be faculty & Ph.D. scholars from AICTE approved technical institutions.

Important Dates

Last date for receipt of application : 10th Sep 2019
List of selected participants will be intimated through mail : 11th Sep 2019

Registration and Fee Details

There is no Registration fee. No TA/DA will be paid. Accommodation and food will be provided for the participants during the five days.

Those wishing to attend this workshop, should register online. Please [Click here](#) for online registration. Original copy of filled in registration form has to be submitted to the coordinator at the time of attending the workshop.

Registration Form

AICTE Training and Learning (ATAL) Academy

Five days Workshop
on

ARTIFICIAL INTELLIGENCE AND ITS APPLICATIONS

16th - 20th September 2019

Organized by

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

NATIONAL INSTITUTE OF TECHNOLOGY ANDHRA PRADESH

1. Name: _____
2. Designation: _____
3. Organization: _____
4. Qualification: _____
5. Research area: _____
6. Teaching Experience: _____
7. Address for Communication: _____

8. Mobile No: _____
9. Email address: _____
10. Accommodation required: Yes / No

Declaration

The information provided is true to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the course and shall attend the course for the entire duration.

Place:

Date:

Signature of the Applicant

Signature of the Head of the Department/Organization with Seal

About the Institute

National Institute of Technology, Andhra Pradesh is the 31st institution among the chain of NITs started by the Government of India. NIT Andhra Pradesh is established in the state of Andhra Pradesh recently in the academic year 2015 – 2016.

CPWD has taken up the activity of construction of Academic, Hostel, Guest House and Admin buildings in Phase-I. Expected date of completion of Phase-I building in by March 2019. Immediately Phase-II will be executed. HEFA / MHRD has sanctioned Rs. 400cr for infrastructure and development.

Speakers

Academicians in the field concerned from IITs/NITs/IITs are invited to deliver lectures in the programme. Professionals from industries are also expected as speakers for this course.

About the Department

The department offers B.Tech and Ph.D. programmes in CSE. The department has qualified, dedicated, experienced faculty with deep sense of commitment towards the students and institution. Faculty proficiency in thrust areas of Computer Science motivates students to participate in research activities and skill development programs. The department has a very good placement record. Faculty research interests include, but are not limited to the following areas; Artificial Intelligence, Machine Learning, Pattern Recognition, Big data Analytics, NLP, Deep Learning, Cyber Security, Cryptography.

Address for Correspondence

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Schedule

Date	10:00 AM to 11:30 AM	11:30 AM to 12:00 PM Tea	12:00 PM to 1.30 PM	1.30 PM to 2:30 PM Lunch	2:30 PM to 4.00 PM	4:15 PM to 4:45 PM Tea
16.09.19	Registration and Inauguration		Introduction: Concept of AI, Current status, Agents, Environments, State Space Representation, Search Trees, Graphs.		Search Algorithms: Random Search, DFS, BFS, Search Open and Closed list.	
17.09.19	Search Algorithms: Heuristic Search, Best First Search, A* Algorithm, Game Search.		Probabilistic Reasoning: Probability, Conditional Probability, Bayes Rule, Bayesian Networks – Representation and Inference.		Search Algorithms: Lab session	
18.09.19	Probabilistic Reasoning: Temporal Model.		Probabilistic Reasoning: Hidden Markov Model.		Probabilistic Reasoning: Lab session	
19.09.19	Markov Decision process: MDP Formulation, Utility Theory, Utility Functions.		Markov Decision process: Value Iteration, Policy Iteration and Partially Observable MDPs.		Markov Decision process: Lab session	
20.09.19	Reinforcement Learning: Passive RL, Direct Utility Estimation, Adaptive Dynamic Programming.		Reinforcement Learning: Temporal Difference Learning, Active Reinforcement Learning - Q Learning.		Reinforcement Learning: Lab session	Valediction

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(ATAL) Academy



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Patron

Prof. C.S.P. Rao
Director, NIT Andhra Pradesh

Convener

Dr. Karthick Seshadri
Assistant Professor & Head, Dept. of CSE

Coordinator

Dr. Srilatha Chebrolu
Assistant Professor, Dept. of CSE



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