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Fundamentals Of Artificial Intelligence

By Prof. Shyamanta M. Hazarika | IIT Guwahati

Learners enrolled: 12888

Fundamentals of Artificial Intelligence [Introduction]

What does automatic scheduling or autonomous driving have in common with web search, speech recognition, and machine translation? These are complex real-world problems that span across various practices of engineering! Aim of artificial intelligence (AI) is to tackle these problems with rigorous mathematical tools. The objective of this course is to present an overview of the principles and practices of AI to address such complex real-world problems. The course is designed to develop a basic understanding of problem solving, knowledge representation, reasoning and learning methods of AI.

INTENDED AUDIENCE: Final Year B.Tech; M.Tech and PhD
PREREQUISITES: Basic Course in Probability and Linear Algebra

PRINCIPAL
G. Narayanamma Institute of
Technology & Science (for women)
(AUTONOMOUS)
Shaikpet, Hyderabad - 500 104

Summary

Course Status :	Completed
Course Type :	Elective

Duration :

Category :

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12 weeks

∘ Mechanical Engineering

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∘ Multidisciplinary   0

Credit Points :   3

Level :   Postgraduate

Start Date :   14 Sep 2020

End Date :   04 Dec 2020

Enrollment Ends :   25 Sep 2020

Exam Date :   19 Dec 2020 IST

Note: This exam date is subjected to change based on seat availability. You can check final exam date on your hall ticket.

This is an AICTE approved FDP course

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(https://www.addtoany.com/share#url=https%3A%2F%2Fonlinecourses.nptel.ac.in%2Fnoc20_me88%2Fpreview&title=Fundamentals%20Of%20Artificial%20Intelligence%20-%20Course)

Course layout

Week 1: AI and Problem Solving by Search
Week 2: Problem Solving by Search
Week 3: Problem Solving by Search
Week 4: Knowledge Representation and Reasoning
Week 5: Knowledge Representation and Reasoning
Week 6: Knowledge Representation and Reasoning
Week 7: Reasoning under Uncertainty
Week 8: Planning
Week 9: Planning and Decision Making
Week 10: Machine Learning
Week 11: Machine Learning
Week 12: Machine Learning

Books and references

1. Patrick Henry Winston, **Artificial Intelligence**, Third Edition, Addison-Wesley Publishing Company, 2004.
2. Nils J Nilsson, **Principles of Artificial Intelligence**, Illustrated Reprint Edition, Springer Heidelberg, 2014.
3. Stuart Russell and Peter Norvig, **Artificial Intelligence: A Modern Approach**, 3rd Edition, PHI 2009.
4. Nils J. Nilsson, **Quest for Artificial Intelligence**, First Edition, Cambridge University Press, 2010.

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Instructor bio

Prof. Shyamanta M. Hazarika

IIT Guwahati

Prof. Shyamanta M Hazarika is with the Department of Mechanical Engineering at Indian Institute of Technology Guwahati, Assam, India. Prof. Hazarika have an M.Tech in Robotics from IIT Kanpur. He has been awarded PhD from School of Computing, University of Leeds, England where he worked under the supervision of Prof. Anthony G Cohn. From October 2009 to March 2010, he has been a Vertretungsprofessur (Substitute `Full' Professor) of Cognitive Systems & NeuroInformatics, FB3 - Informatik, University of Bremen, Germany. His primary research interest is in Rehabilitation Robotics and Knowledge Representation and Reasoning. This translates into interest in bio-mimetic prosthetics; cognition and cognitive vision. From August 2010 to May 2017, he was a Professor in the Department of Computer Science & Engineering at Tezpur University, wherein he had es tablished the Biomimetic and Cognitive Robotics Lab. He have been part of European Science Foundation's COST Action IC0903 MOVE: Knowledge Discovery from Moving Objects. As member of Working Group 1, the emphasis was on development of appropriate `ontology' for identification of motion patterns from massive amounts of data generated by location-aware devices. More recently on a DST-UKIERI Project he had worked with Prof. John Q Gan, University of Essex, England on a Brain Controlled Wheelchair.

Course certificate

The course is free to enroll and learn from. But if you want a certificate, you have to register and write the proctored exam conducted by us in person at any of the designated exam centres.
The exam is optional for a fee of Rs 1000/- (Rupees one thousand only).
Date and Time of Exams: **19 December 2020** Morning session 9am to 12 noon; Afternoon Session 2pm to 5pm.
Registration url: Announcements will be made when the registration form is open for registrations.
The online registration form has to be filled and the certification exam fee needs to be paid. More details will be made available when the exam registration form is published. If there are any changes, it will be mentioned then.
Please check the form for more details on the cities where the exams will be held, the conditions you agree to when you fill the form etc.

CRITERIA TO GET A CERTIFICATE

Average assignment score = 25% of average of best 8 assignments out of the total 12 assignments given in the course.
Exam score = 75% of the proctored certification exam score out of 100

Final score = Average assignment score + Exam score

YOU WILL BE ELIGIBLE FOR A CERTIFICATE ONLY IF AVERAGE ASSIGNMENT SCORE >=10/25 AND EXAM SCORE >= 30/75. If one of the 2 criteria is not met, you will not get the certificate even if the Final score >= 40/100.

Certificate will have your name, photograph and the score in the final exam with the breakup.It will have the logos of NPTEL and IIT Guwahati .It will be e-verifiable at nptel.ac.in/noc (http://nptel.ac.in/noc)

Only the e-certificate will be made available. Hard copies will not be dispatched.

Once again, thanks for your interest in our online courses and certification. Happy learning.

NPTEL team

G.NARAYANAMMA INSTITUTE OF TECHNOLOGY & SCIENCE (For Women)
(AUTONOMOUS)
Shaikpet, Hyderabad – 500104

Department: Information Technology

2020-21

REPORT

FDP on "Fundamentals of Artificial Intelligence"

Date of program: Sep - Dec 2020

Resource person: Prof. Shyamanta M. Hazarika,IIT Guwahati

About the Program:

In this FDP, the resource person has delivered his lectures on the fundamentals of Artificial Intelligence that encompass a range of techniques and applications designed to mimic human intelligence. From machine learning to natural language processing and robotics, AI has a broad impact on various industries, shaping the future of technology and human-machine interaction.

Signature of the Faculty member

Dr. S.Prabavathy.