SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
www.sathyabama.ac.in

COGNIBOT
AI meets Industry

CENTRE FOR PROFESSIONAL & CAREER ADVANCEMENT

in association with the industry partners

Online Certificate Course in

ARTIFICIAL INTELLIGENCE

Batch 1: September 5, 2020

Contact Us :
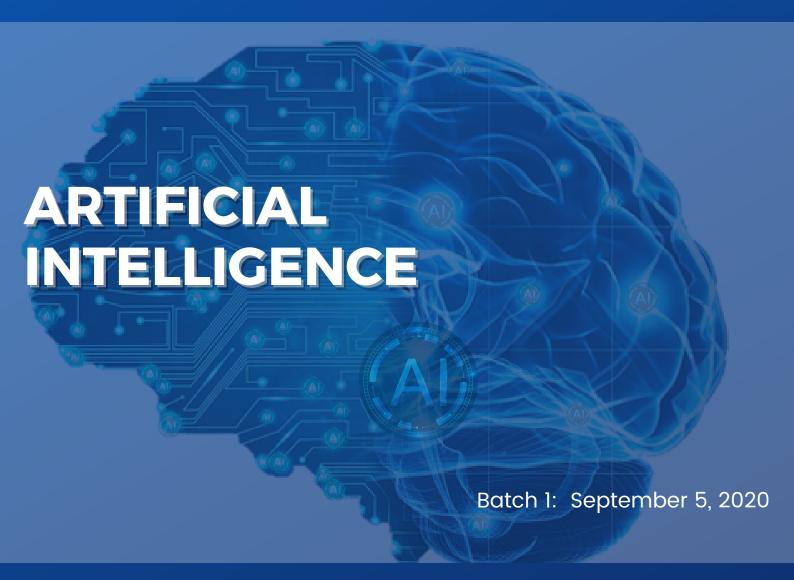Centre for Professional & Career Advancement
Sathyabama Institute of Science and Technology,
(Deemed to be University)
Jeppiaar Nagar, Rajiv Gandhi Salai,
Chennai – 600119
Tamil Nadu, India

For Queries and Assistance Contact :

Web   :   www.sathyabama.ac.in/onlinecourses

e-Mail :   onlinecourses@sathyabama.ac.in

Mobile : +91 94436 56637
             +91 94446 57879
Ph. No. : 044-2450 3814

About SATHYABAMA

Sathyabama Institute of Science and Technology is one of the South India's premier Academic and Research Universities that offers multidisciplinary academic programmes in various fields of Engineering, Science, Technology, Management, Dentistry, Law and Nursing. It has been accredited by NAAA with "A" Grade by the National Accreditation and Assessment Council. Sathyabama's standing in rankings and ratings are excellent at National and International Level. For the year 2020, Sathyabama Institute of Science and Technology has been ranked in 39th position among the universities in India by National Institutional Ranking Framework (NIRF), Govt. of India. NIRF has consistently ranked Sathyabama in the top 50 positions and this is the fifth consecutive year the institution is receiving this recognition.

About Centre for Professional & Career Advancement

The Centre for Professional and Career Advancement will be the first of its kind which will offer Certificate, Diploma and Post Graduate Diploma courses in online mode to meet the demands of the industry in line with the Govt. of India initiatives, to make higher education available and affordable to all. The centre will provide life long learning platform for all aspiring learners to reskill or upskill their knowledge and become an industry-ready workforce through a systematic approach.

About NI

NI, formerly National Instruments, is an American multinational company headquartered in Austin, Texas, is a pioneer and leader in Automated test & Automated Measurements using productive software LabVIEW & Modular reconfigurable hardware. For more than 40 years, NI has developed automated test and automated measurement systems that help engineers solve the world's toughest challenges. Connection is at the heart of creative problem solving. At NI, we challenge ourselves to find connections—between people, ideas, and technology that show us the path forward. This helps us spot opportunities and link people and resources intelligently to engineer the extraordinary.

About Cognibot

Cognibot is an AI research firm building state of the art algorithms and performant hardware to bring cutting edge AI to life. Cognibot specializes in building real-time deterministic AI systems for factories of the future.

About AI course in SATHYABAMA

One of the rarest comprehensive courses on software and hardware for building artificial intelligence that equips students with the knowledge required to design and deploy AI systems and deploy AI on the Cloud and at the Edge. Project-Based Learning Approach is the major component of the course. At the end of the course, learner would acquire

- In depth knowledge in Artificial Intelligence (AI) & Machine Learning (ML)
- Skills to effectively use the right tools for the right project
- Confidence to identify and execute projects in AI & ML independently

We Offer

- 100% industry oriented online course
- 60% Practical and 40% Theory
- Solution to real world applications
- Industry relevant hardware & software platforms
- Hands-on training in deep learning neural networks
- Guided capstone projects & doubt clarification forums

Unique Features

- This is one of the rare courses that focuses on both the software and hardware aspects of AI
- Teaches both cloud and edge hardware AI accelerators that are used in the industry
- Lots of real-world examples and exercises
- Experts from reputed organizations conduct sessions
- Uses industry-relevant hardware and software platforms for exercises
- Includes project-based learning as a major component of the course

Eligibility Criteria

- Any undergraduate from UGC/AICTE recognized institutions
- Final and Pre-final year students of Engineering and Technology
- People working in industry

Selection Process

- Qualifier exam in programming and mathematics

Course Fee

- ₹30000 (including GST) for Indian Nationals
- $500 for others
- Students of SATHYABAMA will get fee concession

Important Dates

- Application Submission : 26 Aug 2020
- Intimation of Selection : 31 Aug 2020
- Last Date for Fee Payment : 03 Sep 2020
- Course Commencement : 05 Sep 2020

Registration

Enroll now @
https://forms.gle/FyvDF23SiZuz1S2G9

Course Details

Course 1
Hybrid Programming for AI

Introduces participants to Python and LabVIEW programming

- Introduction to Python
- Basic Data Structures and Syntax
- Interpreter, Loops, Functions and Modules
- Object Oriented Programming in Python
- Introduction to NumPy, Matplotlib and Pandas Libraries
- Jupyter Notebooks
- Basics of Linux Terminal
- Graphical Programming Language LabVIEW for Sense, Comprehend and Act

Course 2
Mathematics for AI

A refresher course in mathematics, specifically to provide the fundamentals required for learning AI

- Linear Algebra
- Analytic Geometry
- Matrix Decompositions
- Vector Calculus
- Probability and Distribution
- Continuous Optimization

Course 3
Concepts of Machine Learning

Introductory course to Machine Learning

- Types of Machine Learning and Data Types
- Metrics and Model Analysis
- Linear Regression
- Tree Based Models (Including Random Forest)

Course 4
Deep Learning

Introductory course to Deep Learning

- Introduction to Neural Networks
- Gradient Descent
- Training and Inference
- Activation functions
- Convolutional Neural Networks
- LSTM and Transformers

Course 5
Case Studies

Real world examples and case studies to provide practical exposure

- Natural Language Processing
- Bio Medical Image Processing
- Business Analytics
- Predictive Analysis

Course 6
Data Engineering & AI DevOps

Data Collection and Deployment

- Sensing & Data Acquisition using NI Platform
- Sensor Interface
- Data Capture
- Image Capture
- Deployment

Course 7
Capstone Project

Projects will be assigned in the domains the candidates are interested in, including:

- AI and Data science for Cloud Services
- AI and Data science for Cognitive Technologies
- AI for predictive modeling and analytics
- AI for Robotics and Automation
- AI for Assistive Healthcare
- AI for Guided Investments
- AI for Innovative Investment
- AI for Effective Governance
- AI for Biomedical Sciences

The candidates will be given guidance in understanding the domains, choosing the right problem statements and executing the projects.

Language & Tools

RIO

TensorFlow

Keras

Google Cloud

NVIDIA Jetson
AI Platform

Course Duration

- SIX months

Industry Guidance

- Expert Lectures / Mentorship from Industry leaders in AI

Course Schedule

Microsoft Teams Webinar & Vimeo Enterprise
- 3 - 3.5 hours of online sessions each week

Moodle / Online Platforms
- 4 hours of self-learning using the materials provided
- 4 hours of assignments/experiments each week
- Average of 4 hours of project work per week
- Average of 0.5 hours of assessment each week