# **ARTIFICIAL INTELLIGENCE**

PHY.A.22.2



ALL SAINTS' COLLEGE THIRUVANANTHAPURAM

# Introduction to

# **ARTIFICIAL INTELLIGENCE**

# CONDUCTED BY DEPARTMENT OF PHYSICS 2022-23



About the Course Eligibility: UG/PG ongoing students Course period: 30 hrs

### Features

The course introduces students to new avenues of information technology, focusing on the history and applications of AI in human lives. It also covers the ideas of deep learning and machine learning, with the objective of helping students to understand the basic artificial neural networks and the required mathematical functions.

### **Course Content**

Topics include search, reasoning, planning, natural language processing, computer vision, deep learning and machine learning.

## **Course Objectives**

Upon successful completion of this course, students will be able to:

- Understand the basic concepts of AI
- Apply AI techniques to solve problems
- Evaluate the effectiveness of AI algorithms

## For more details contact

Course Coordinator HoD Physics. All Saints' College. Thiruvananthapuram Or Mail to physicsallsaints@gmail.com

> All Saint's College Thiruvananthapuran



Department of Physics

# Fundamentals of AI (PHY.A.22.2)

Course Duration 30hrs

Teacher in Charge - Dr. Aiswarya R

### Course Description

This course enables the students to understand the history of AI. The course also throws light to the applications of AI in daily life as well as scientific research. It familiarizes the students with the basic structures of artificial neural networks and related mathematical models, and further with the significance of deep learning as well as machine learning domains.

### **Course** Objectives

- Identify problems where AI techniques are applicable
- Apply selected basic AI techniques
- Judge applicability of more advanced techniques

### Course Outcomes

After completing this course students will be able to:

- pursue the innovative and scientifically developed realms of AI.
- Participate in the design of systems that act intelligently and learn from experience.
- Outline the preliminary concepts related to artificial intelligence and neural networks.





### **Syllabus**

Module 1-Introduction to AI (12 hrs)

Introduction to Al, History of AI, Artificial Intelligence, Machine Learning, Learning methods, Deep Learning, Turing test, Data Structures & Algorithms, Software Engineering, Computer Networks

Module 2- Neural Networks (10 hours)

Artificial neural networks, Biological Neuron model, Artificial neuron model, Perceptron, Neural architecture and it's applications

Module 3-Application of AI (8 hrs)

Single layer feed forward network, Multilayer feed forward network, Game Theory & AI, Digital Image Processing, AI in daily life

### References

1. Artificial intelligence-3rd Edition- By Kevin Knight, Elaine Rich, Shivashankar B. Nair

2. http://introtodeeplearning.com/

### Evaluation

Exam Based Assessment: 50

ANDRUM

22

All Saint's College Thiruvananthapuram



### Department of Physics All Saints' College, Thiruvananthapuram

### 'Fundamentals of AI' (Phy. A.22.2)

### **Course Summary**

The Add on course on 'Fundamentals of AI' is organized and conducted by the Department of Physics, All Saints' College, Thiruvananthapuram. This course provided a platform fort the students to get a basic introduction to the building blocks and components of artificial intelligence, learning about concepts like algorithms, machine learning, and neural networks. The main objective of the course was to Identify problems where AI techniques are applicable, apply selected basic AI techniques and Judge applicability of more advanced techniques. The course has a flexible structure which allows the students to learn effectively along with their regular studies. Dr. Aiswarya R coordinated the course,. The duration of the course was 30 hours (from 20/2/2023 to 12/4/ 2023) . This academic year 40 students joined for the course. All the students attended the exit exam which was held on 27-04-2023, and certificate was also issued to them on the successful completion of the course. The course outcome has been achieved by all the students. After completing the course students were able to pursue the innovative and scientifically developed realms of AI, Participate in the design of systems and Outline the preliminary concepts related to Al and neural networks.



All Saint's College Thiruvananthapuran



Department of Physics

### **Course Report**

Add on course on

### 'Fundamentals of AI (Phy. A.22.2)

Interactive classes of the 30 hours add on course on "Introduction to Al" was conducted by Dr Aiswarya R, Assistant Professor, Department of Physics, All Saints' College from 20/2/2023 to 12/4/ 2023. The course introduced students to new avenues of information technology. The learning was focused on the history and applications of Al in human lives. The course also covered the ideas of deep learning and machine learning. Understanding the basic artificial neural networks and the required mathematical functions was one among the objectives of this course. The students were attentive and they were actively participating in discussions throughout the course. Exam based evaluation was conducted at the end of the course with considerable success. Certificate were issued to the students on successful completion of the course,



leshan IC1PAL

All Saint's College Thiruvanaothaporam

STANDARD REGISTER OF ATTENDAT	NCE OF Sudamentals	OF AL		SCHOOL.	FOR	
2011-23 PHY, A.22.2.	「 こう 清古 話 話 は ば ら				Tanit No. of School Days	
E B Days		DATE	And the particular statistics	[*** ] v		
A ST NAME	Sa an an an a - 3	TITTT		311 11	for for	an timber
2 2 Date		3 14 15 16 17 48 19	20 21 22 23 24 25 26 27 28	29.30 11 2 2.3 1	About Caron Americ Comme No Pr Rr Pi Ri, Pi Ri, P	SE IN SHINKING SE
I ARGNA NOTIONY	XXXXXXXXXX					Ner.
2 ATSUMEN KS 3 AMENTUA CA	X A X X X X X X X X X X X X X X X X X X					John
e ANAPERA A	XXXXXXXXXX					- the
ARDEAN A B	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX					ME
7 BEJS TERENKE	XXXXXXXXX					Reber
S DADDA S DOMN	X X X X X X X X X X X X X X X X X X X					1 de
10 PARNATHY VH	XXXXXXXXX	1 1				The second
11 PRIDLY PL	x x A X X X X X X X X X X X X X X X X X					1 the
U SHEEBA SARA KOSHY	XXXXXXXXXX	<u>معريد و تا از تا از تا ب</u>				2
K SREELEKSHMI KV	× × × × × × × × × × × × × × × × × × ×					Toph.
16 ADAEDNA DADAY KOSHY	XX X X X X XX					here
IT ANAKHA 3.5	XXXXXXXXXXX					The second
19 DITTYA P SATTHEESAN	A X X X X X X X X X					1
25 NAN DHARA A	X X X X X X X X X X X X X X X X X X X					and the
23. SUBBANA AS	XXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXX					1 the
IS THANSFELA S	XXXXXXXXX					R
15 Areman SANTHASH	X X X X X X X X X X X X X X X X X X X					
25 ARUNDHATT 27 AGWATHY SUSESH	XXXXXXXXX			3		1
AF DEDCHA SHAM B	X X X X X X X X X X X X X X X X X X X					Asupation
30 DIS ALEENA FATELMA	XXXXXXXXX					121
21 M. SHATHY	x x x x x x x X X X X X X X X X X X X X					Str.
D MANTINA PAS	XXXXXXXXX					
35 A DEDIVA T S	X X X X X X X X X X X X X X X X X X X					Jack
TH ALTER MARGARET SMITH	X XXX X XXXXX X XX X XXXXXX					
33 EVITE MARY PODULAS	XXXXXXXXAA					- Ar
44 SHILPA LIDDEX	X X X X X X X X X X X X X X X X X X X					
40 ST.KANANDA M						
				++++-+		
		101-1				
	De Anorese	BOWN STE	uso Solt	100 L		
The timory & June S Signature of course (00	CO X DE ANGENAL	Bignatione of Portraja		1		1
Signature of Course Coo	idinator Scienticule of 1900	Scenation of reason		521-1-1		
Signature			No. at the and of the month	#111_1	Alemánia Talal -	
		Principal	Ho, of Schedule costs, Hill Triber	s & Other Backward Commun	Average age	Conclusi
On Tappiar at the bageing	SV Transfers	All Saints' College Thirty-anaschaparan			No. of Person No. of Shohamedana	
A lander	U Productions SY Transforment U Non-Payment 20 Temporary Put Prevanent C Sal Retroval		Do Do Albendence Percentage of Albendence		No. of Monamedans	Healmondan / Healthing
V Permitive Visite Adversary New Adversary D Re-adversary Link Adversary	O Total Removal		Contraction of Instantices		-	
2 Inst Assessor						





from 20/2/23 to 12/4/23 organized by the Department of Physics during the year 2022-23 Course Co-ordinator Dr Aiswarya R. Shark . For completing the 30 hour add on course on "Fundamentals of Al" ALL SAINTS' COLLEGE TRIVANDRUM CERTIFICATE OF COMPLETION Dr. Anjana P.S. Head of Departmen MAYA S KUMAR, II BSc Physics off R2 THIS IS AWARDED TO Dr. Reshmir R. Prasad Principal Thiruvananthapuram." All Saints' Collega





# CERTIFICATE OF COMPLETION

THIS IS AWARDED TO

ALISHA MARGARET SMITH, II BSc Physics

from 20/2/23 to 12/4/23 organized by the Department of Physics during the year 2022-23 For completing the 30 hour add on course on "Fundamentals of Al"

Dr Aiswarya R. Course Co-ordinator

Dr. Anjana P.S. Head of Department at le

Dr. Reshmir R. Prasac Principal Principal All Salata' College

from 20/2/23 to 12/4/23 organized by the Department of Physics during the year 2022-23 Course Co-ordinator Dr Aiswarya R. Jine 2 For completing the 30 hour add on course on "Fundamentals of Al" ALL SAINTS' COLLEGE TRIVANDRUM CERTIFICATE OF COMPLETION EVITA MARY PODUTHAS, II BSc Physics Head of Department Dr. Anjana P.S. affles THIS IS AWARDED TO Dr. Reshmt R. Prasad Principal (nanthapuram lints' College lincipal





# CERTIFICATE OF COMPLETION

THIS IS AWARDED TO

GADHA S GOPAN, I MSc Physics

from 20/2/23 to 12/4/23 organized by the Department of Physics during the year 2022-23 For completing the 30 hour add on course on "Fundamentals of Al"

Dr Alswarya R.

Course Co-ordinator



Dr. Reshmi R. Prasad Principal

Keshi

Head of Departments c

Principal All Saints' Collage Thiruvananthapuram."

