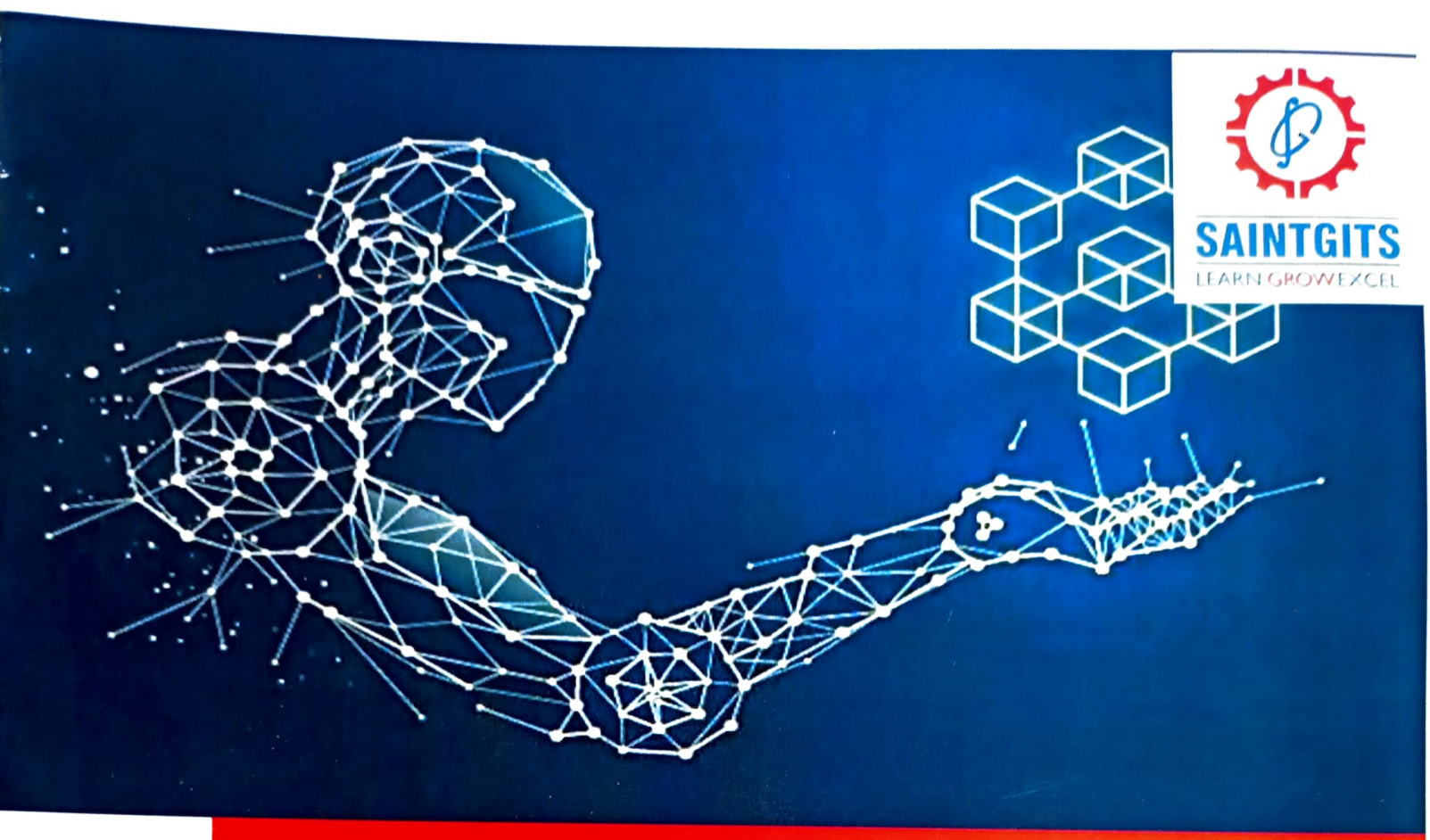

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SAINTGITS COLLEGE OF APPLIED SCIENCES

VALUE ADDED COURSE 2021-22

MACHINE LEARNING USING PYTHON

SAINTGITS COLLEGE OF APPLIED SCIENCES
PATHAMUTTOM, KOTTAYAM

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ABOUT THE COURSE

Be equipped to use Python to explore the world of machine learning (ML). This course include Introduction to machine learning, supervised vs. unsupervised learning, linear vs. non-linear regression, simple regression, Deep Neural Network etc.

OBJECTIVES

This course will help students to start working in machine learning and deep learning or develop your career in data science.

EXPECTED OUTCOMES

- Easily identifies trends and patterns
- Handling Multi-dimensional and multi-variety data

DURATION

60 hours

FEATURES

Machine Learning allows software applications to become more accurate at predicting outcome with out being explicitly programmed to do so.

ADVANTAGES

- The Rich Ecosystem of Python Libraries
- Platform Independence
- Great Community Support

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CONTENT

PART I-Machine Learning

Module 1- Foundations of Machine Learning- Types of Machine Learning algorithms- Choosing the right algorithm- Building machine learning models- Applications of Machine Learning.

Module 2- Introduction to Google Colab- Python libraries- Pandas, Numpy, Sklearn, Seaborn and Matplotlib- Overview of popular Machine Learning datasets- Data preparation- Visualization.

Module 3- Supervised and unsupervised learning- Clustering techniques- K-Means algorithm- Classification techniques- Logistic Regression- Support Vector Machines.

Module 4- Getting started with Artificial Neural Networks- Basic elements of a Neural Network.

PART II-Deep Learning

Module 1- Deep Learning –Introduction, shallow & Deep Neural Network, Applications.

Module 2- Overview of optimizers and losses, working with image datasets, image preprocessing and visualization

Module 3- Autoencoders- Convolutional Autoencoders- Image reconstruction using CAE.

Module 4- Convolutional Neural Networks- Introduction to Keras- Classification using CNN, Transfer Learning

Module 5- Fine tuning and regularization strategies- Mini project

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SAINTGITS COLLEGE OF APPLIED SCIENCES

Pathamuttom, Kottayam - 686532
Phone : 0481 - 2433787
e-mail : scas@saintgits.org, Web : www.saintgits.org

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Roll No	Name of Student	Total																			
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		Hour	3	3	3	1/2	2½	3	3	3	3	3	3	3		2	2	2	2	2	2
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2	Alex Babu		X	X	X	X	a	X	X	X	X	a	X	X		X	X	X	a	X	a
3	Arundas .G		X	X	X	X	X	X	X	X	X	X	X	X		X	a	X	X	X	X
4	Harikrishnan .D		X	X	X	X	a	X	X	X	X	X	X	X		X	✓	X	X	X	X
5	Sajina Rose Wilson		X	a	X	X	X	X	X	a	X	X	X	X		a	X	X	X	X	X

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Aiswarya S Kumar

Ambily Kuruvilla

DEPARTMENT OF COMPUTER APPLICATIONS
KOTTUKULAM HILLS
PATHAMUTTOM
KOTTAYAM 686 532
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