

Machine Learning using Python

VALUE ADDED COURSE

2021-22

SUMMARY REPORT

Name of the Course: Machine Learning using Python

Course Code: VEXTDP001

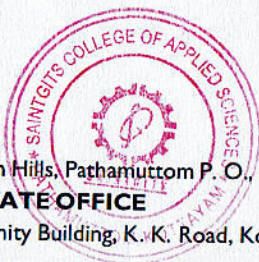
Offering Body: SAINTGITS COLLEGE OF ENGINEERING

No: of students who opted the course: 5

Batch, class and semester to which the course was offered:

Batch	Class	Semester
2021-2023	MSC AI	1 st and 2 nd semester

Duration of the course: 60 Hours



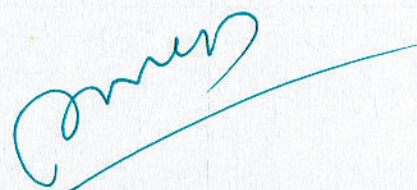
CAMPUS

Kottukulam Hills, Pathamuttom P. O., Kottayam – 686 532, Kerala | Tel: +91 481 2433787 | scas@saintgits.org

CORPORATE OFFICE

III Floor, Unity Building, K.K. Road, Kottayam – 686 002, Kerala | Tel: +91 481 2584330, 2300365 | mail@saintgits.org

www.saintgits.org



Topics Covered:

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 I- Deep Learning -Introduction, shallow & Deep Neural Network, Applications.

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

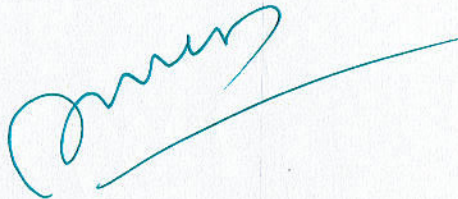
Module 3- Autoencoders- Convolutional Autoencoders- Image reconstruction using CAE.

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

Module 5- Fine tuning and regularization strategies- Mini project

Resource materials, Teaching Methodology:

Power Point Presentation, Colab, Anaconda, Lab Session



CAMPUS

Kottukulam Hills, Pathamuttom P.O., Kottayam – 686 532, Kerala | Tel: +91 481 2433787 | scas@saintgits.org

CORPORATE OFFICE

III Floor, Unity Building, K. K. Road, Kottayam – 686 002, Kerala | Tel: +91 481 2584330, 2300365 | mail@saintgits.org

www.saintgits.org

LEARN . GROW . EXCEL

Outcome of the course:

The course gives students ability to

- Easily identifies trends and patterns in data and Handling Multi-dimensional and multi-variety data
- Develop career in data science.

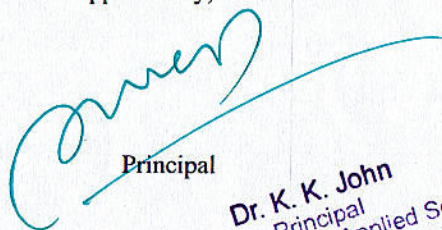
Prepared by,



VAC Coordinator



Approved by,



Principal

Dr. K. K. John
Principal
Saintgits College of Applied Sciences
Kottukulam Hills, Pathamuttom P. O.
Kottayam 686 532, Kerala

CAMPUS

Kottukulam Hills, Pathamuttom P. O., Kottayam – 686 532, Kerala | Tel: +91 481 2433787 | scas@saintgits.org

CORPORATE OFFICE

III Floor, Unity Building, K. K. Road, Kottayam – 686 002, Kerala | Tel: +91 481 2584330, 2300365 | mail@saintgits.org

www.saintgits.org

LEARN

GROW

EXCEL