



PG Certification in **Machine Learning and Deep Learning**

6 Months | Online



upGrad is an online education provider that helps individuals develop their professional potential in the most engaging learning environment. Online education is a fundamental disruption that will have a far-reaching impact. At upGrad, we are working towards transforming this online education wave into a tsunami! We are taking a full-stack approach of leveraging content, technology, marketing and services to offer quality education at scale in partnership with corporates and academics to offer a rigorous and industry-relevant program. With over 12,000 plus learners trained across Machine Learning and Data Science, upGrad & IIT Bangalore is disrupting the online education space with the core focus on launching programs on the most advanced and sophisticated topics.

The field of Machine Learning is maturing rapidly and demands professionals skilled not only in Statistics, but also in advanced concepts such as Deep Learning. Our vision is to design and deliver a quality online Post Graduate Certification Program in Machine Learning with focus on these advanced topics to produce top-notch Machine Learning experts and Data Scientists and help India capitalize the next wave of Machine Learning. With upGrad, we promise to equip you with the perfect mix of business acumen and technical capabilities to help you contribute to this technological revolution.

Ronnie Screwvala

Co-founder & Chairman
upGrad



IIIT Bangalore is one of the leading institutes of higher education in the country and is a renowned name in the global analytics and IT industry. Our world-class faculty with years of teaching experience, have successfully worked with upGrad to deliver quality online executive education in Machine Learning.

We are excited to partner with upGrad yet again, to offer an academically rigorous and industry-relevant PG Certification in Machine Learning and Deep Learning (DL). IIIT-B's faculty will be covering the conceptual depths of Neural Networks & Deep Learning and this will be complemented by casestudies from industry leaders from upGrad's industry network. Further, our strong industry mentorship and the credibility of a PG Certificate Program will provide you just the right push to accelerate your career in Machine Learning.

We invite you to take this opportunity and join us and make use of the excellent pedagogy and industry collaborations. You will truly be getting the best of both worlds, which will help you achieve success in your chosen variety of fields in Machine Learning.

Prof. S. Sadagopan

Director

IIIT Bangalore



WHY MACHINE LEARNING & DL WITH UPGRAD AND IIIT-B?



EARN PG CERTIFICATE FROM IIIT BANGALORE

Differentiate yourself from your peers by earning industry recognized Post Graduate Certificate from IIIT Bangalore



BECOME A MACHINE LEARNING & DL EXPERT

200+ hours of dedicated lectures squeezed into 30 mins learning sessions along with close to 100 hours of active hands-on on projects and case studies



LEARN BY DOING IN HACKATHONS

Challenge your knowledge and expertise through futuristic machine learning & deep learning hackathon event



LEARN FROM THE MOST INFLUENTIAL PANEL OF INDUSTRY EXPERTS

Get cutting edge insights from 10+ Industry leaders from companies like Flipkart, Google, Sapient etc. to understand the industry needs and stay ahead of the curve



ACTIVE INDUSTRY MENTORSHIP

Get unparalleled guidance with 1-on-1 mentoring from industry experts and academia in your live projects



ARTICULATION TO PG PROGRAM

Score above 60% and transition to the PG Diploma in ML and AI

INSIGHTS FROM INDUSTRY EXPERTS



ASHISH TENDULKAR

Machine Learning & Text Mining Specialist
Google



MIRZA RAHIM BAIG

Lead Business Analyst
Flipkart



ANKIT JAIN

Data Scientist
Uber



KRISHNA BHAVSAR

ML Expert
Synerzip



ANUJ SAINI

Manager Specialist (Machine Learning/AI)
Sapient



HINDOL BASU

Partner
Tata IQ



S. ANAND

CEO
Gramener



UJJYAINI MITRA

Head of Analytics
Viacom 18

CONCEPTS FROM TOP ACADEMICIANS



PROF. S. SADAGOPAN

Director
IIIT Bangalore



TRICHA ANJALI

Associate Professor
IIIT Bangalore



G SRINIVASARAGHAVAN

Professor
IIIT Bangalore



DINESH BABU JAYAGOPI

Assistant Professor
IIIT Bangalore



**CHANDRASHEKAR
RAMANATHAN**

Dean (Academics)
IIIT Bangalore



SRINATH SRINIVASA

Dean (R&D)
IIIT Bangalore

PROGRAM CURRICULUM

Note: This curriculum is subject to change based on inputs from IIIT-B and Industry.

PREPARATORY COURSE

INTRODUCTION TO PYTHON

Get acquainted with Data Structures and Object-Oriented Programming

PYTHON FOR DATA ANALYSIS

Learn how Python is used for Data Manipulation and Data Visualization

MATH FOR DATA ANALYSIS

Brush up your knowledge of Linear Algebra, Matrices, Eigen Vectors and their application for Data Analysis

STATISTICS ESSENTIALS

INVESTMENT CASE STUDY

Recommend Investment Strategies to Spark Funds using data manipulation and analysis

INFERENTIAL STATISTICS

Learn Probability Distribution Functions, Random Variables, Sampling Methods, Central Limit Theorem and more to draw inferences

HYPOTHESIS TESTING

Understand how to formulate and test hypotheses to solve business problems

MACHINE LEARNING

LINEAR REGRESSION

Learn to implement linear regression and predict continuous data values

LOGISTIC REGRESSION

Understand how supervised learning is used for classification

Introduction to logistic regression & multivariate logistic regression with model evaluation

CLUSTERING

Introduction to clustering -Learn how to create segments based on similarities using K-Means and Hierarchical clustering

PRINCIPAL COMPONENT ANALYSIS (PCA)

Create and implement principal components with clusters implementation using PCA in python

SUPPORT VECTOR MACHINES

Learn the concept of hyperplanes and classify data points using support vectors. Understand the usage of SVM in sklearn

DEEP LEARNING AND NEURAL NETWORKS

INTRODUCTION TO NEURAL NETWORKS

Understand the components and structure of artificial neural networks

CONVOLUTIONAL NEURAL NETWORKS (CNNs)

Understand the architecture of complex CNNs like softmax layers, maxpools and use CNNs to solve complex image classification problems

RECURRENT NEURAL NETWORKS

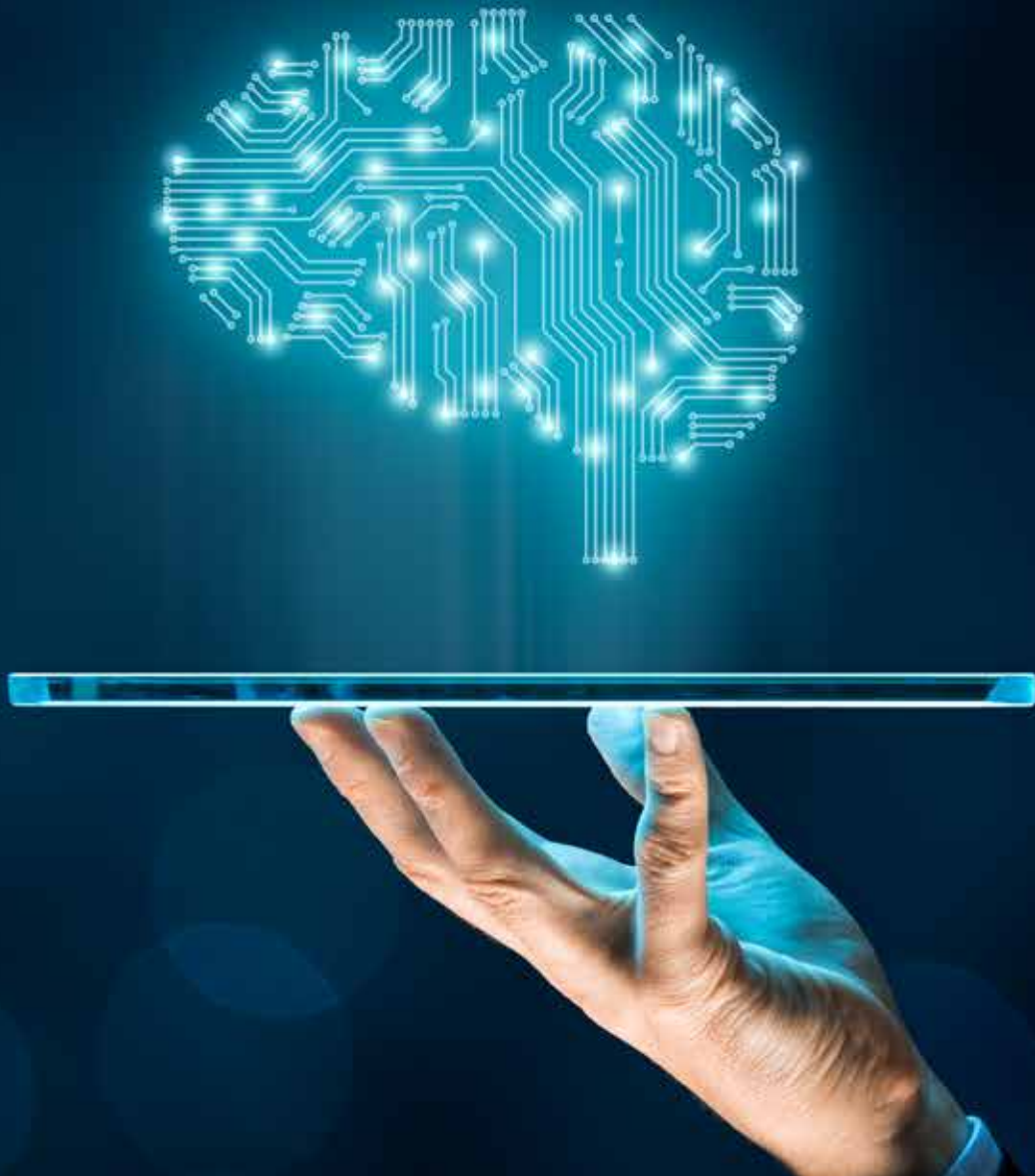
Study LSTMs and RNNs application in text analytics with industry examples

TENSOR FLOW & KERA

Learn to create and deploy neural networks using TensorFlow & Kera

GROUP PROJECT

Build and deploy a neural network - Create an object detection model and deploy it on a web application



PROGRAM DETAILS

PROGRAM STARTS

Please check the website for the program start dates

DURATION

6 Months

PROGRAM FEE

₹1,00,000* (Exclusive of Taxes)

Flexible EMI Payment Options available

**Limited Batch Size*

ELIGIBILITY

Bachelor's/master's degrees in Computer Science/Engineering/Math/Statistics/Economics/Science with a minimum of 50% marks in graduation. No work experience required.

For further details, call us at **+91 91360 56345** or contact:



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AKSHAYA GHADGE

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