

Post Graduate
Program in
**ARTIFICIAL
INTELLIGENCE
& MACHINE LEARNING**



AI - THE NEXT DIGITAL FRONTIER

60% RISE IN DEMAND

for Artificial Intelligence and Machine Learning experts in 2018*

(Kelly OCG)

40% OF DIGITAL TRANSFORMATION

initiatives will use AI services by 2019 and by 2021, 75% of enterprise applications will use AI*

(IDC report 2018)

\$40 BILLION

was spent by companies around the world in developing AI capabilities in 2016*

(McKinsey Global Institute report on Artificial Intelligence)

75%

of Indian companies feel that the shortage of skilled professionals is slowing down their adoption of AI*

(as per Intel/IDC)





AIML PROGRAM

Source: Analytics India Magazine

WHY GREAT LEARNING



15000+
Students



10 Million+
Hours of Learning Delivered



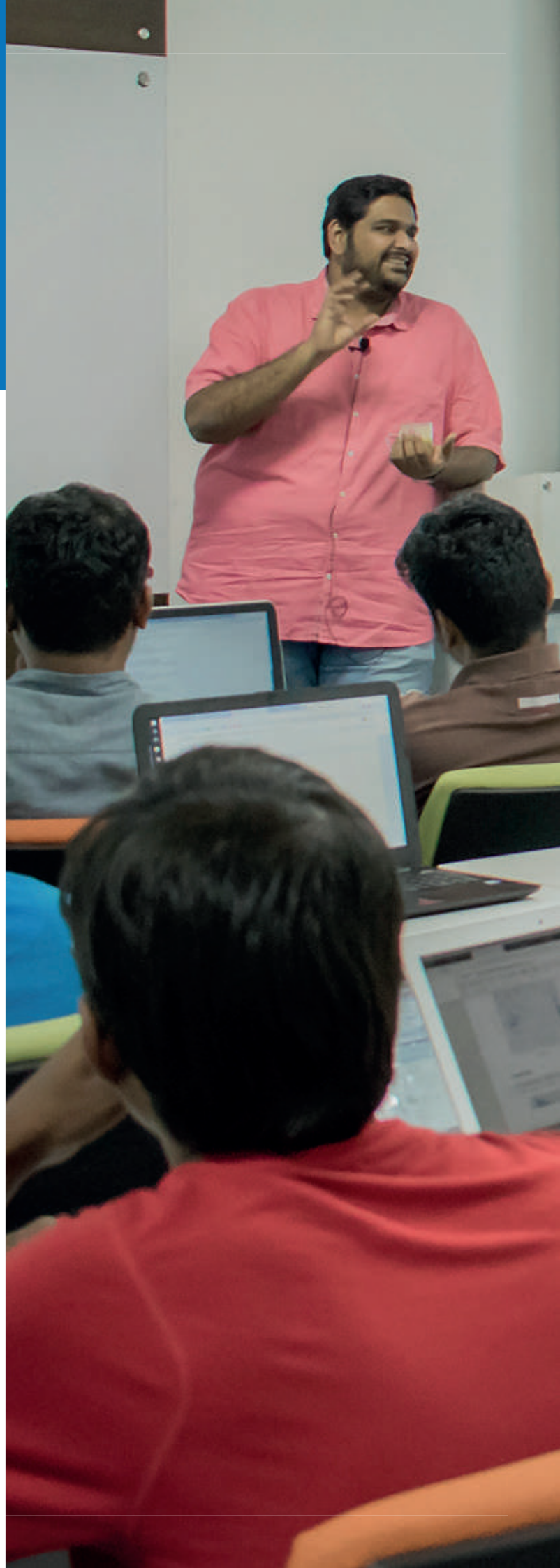
15+
Top Ranked Programs



1000+
Industry Experts



25+
India's Best Data Science
Faculty





PROGRAMS AT A GLANCE

PGP-AIML - Artificial Intelligence & Machine Learning

Duration	12 months
Formats	<ul style="list-style-type: none">• Blended (Weekend classroom & Online content)• Online only (Online content with weekend personalised mentoring)
Suitable for	Professionals with 3+ years of experience in a technology role, including some programming knowledge preferably in Python. This program helps develop competence in Artificial Intelligence and Machine Learning for future-oriented working professionals.

PGP-ML - Machine Learning

Duration	7 months
Formats	<ul style="list-style-type: none">• Blended (Weekend classroom & Online content)• Online only (Online content with weekend personalised mentoring)
Suitable for	Working professionals who want to hone their skills in Data Science, Machine Learning and Deep Learning, and transition to roles like Data Scientists, Machine Learning Engineers, Technology Architects, Solution Engineers, Chief Technology Officers etc.



Features

Explore

Marketplace

WHAT MAKES OUR AIML PROGRAM UNIQUE?

- Covers Artificial Intelligence & Machine Learning technologies and applications including Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Reinforcement Learning, Neural Network, Tensor Flow and many more.
- The program is offered in two formats, a blended format (classroom sessions with online content) & online only (online videos with weekend mentorship sessions)
- Hands-on program using AI and ML lab and 12+ projects. It features case studies and learning from some of the top global companies like Uber, Netflix, Google, Amazon etc.
- For every assignment you work as part of this program, you will get to see the solutions of the assignment as recorded walkthroughs. Recorded walkthroughs help you to understand the concepts better and analyze a problem from the view of an expert.
- As part of this program, you will be making all of your submissions on Github. Github is an online repository which helps you to store all the projects and assignments you have done as part of this program in a single place. Today, most companies look at potential recruits Github profiles to check their technical expertise before hiring them.
- Designed by leading academic and industry experts with IIT-Bombay faculty.

BENEFITS OF ONLINE LEARNING



Goal Achievement

By linking students to a mentor from their field of study, students can get a better understanding of possible career paths from industry professionals.



Peer Learning

Mentors ensure there is consistent engagement between the students.



Being Industry ready

Right guidance from mentors helps students learn about best industry practices and become industry ready.

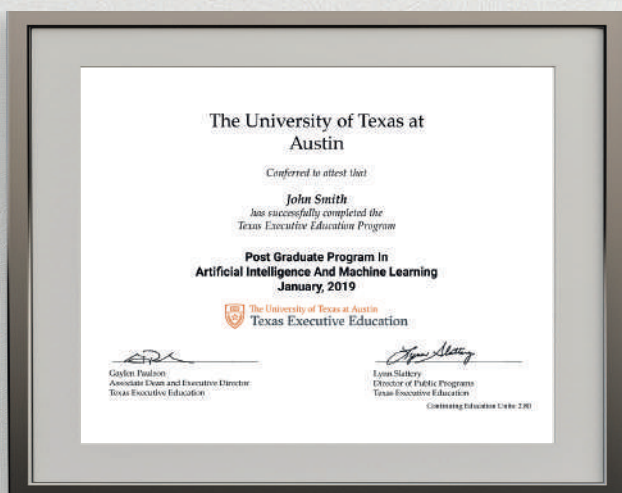


Personalized Development Opportunity

Dedicated mentors help address individual learning needs and help students to develop skills & expertise.

CERTIFICATE

The program is internationally recognized and participants earn dual certificates from The University of Texas at Austin and Great Lakes.



CURRICULUM

FOUNDATIONS

Python for AI & ML

- Python Basics
- Python Functions and Packages
- Working with Data Structures, Arrays, Vectors & Data Frames
- Jupyter Notebook – Installation & function
- Pandas, NumPy, Matplotlib, Seaborn

Statistical Learning

- Descriptive Statistics
- Probability & Conditional Probability
- Hypothesis Testing
- Inferential Statistics
- Probability Distributions

MACHINE LEARNING

Supervised learning

- Linear Regression
- Multiple Variable Linear Regression
- Logistic Regression
- Naive Bayes Classifiers
- k-NN Classification
- Support Vector Machines

Unsupervised learning

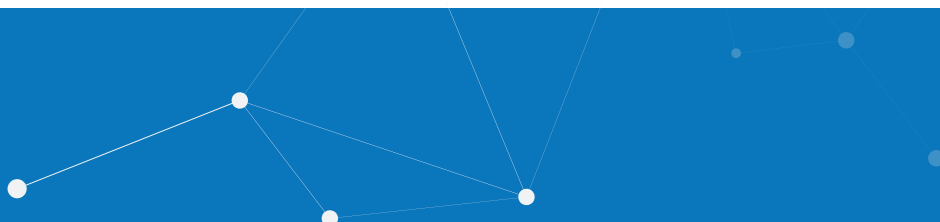
- K-means Clustering
- Hierarchical Clustering
- Dimension Reduction-PCA

Ensemble Techniques

- Decision Trees
- Bagging
- Random Forests
- Boosting

Recommendation Systems

- Introduction to Recommendation Systems
- Popularity based model
- Content based Recommendation System
- Collaborative Filtering (User similarity & Item similarity)
- Hybrid Models



ARTIFICIAL INTELLIGENCE

Introduction to Neural Networks and Deep Learning

- Introduction to Perceptron & Neural Networks
- Activation and Loss functions
- Gradient Descent
- Batch Normalization
- TensorFlow & Keras for Neural Networks
- Hyper Parameter Tuning

Computer vision

- Introduction to Convolutional Neural Networks
- Convolution, Pooling, Padding & its mechanisms
- Forward Propagation & Backpropagation for CNNs
- CNN architectures like AlexNet, VGGNet, InceptionNet & ResNet
- Transfer Learning

NLP Basics(Natural Language Processing)

- Introduction to NLP
- Stop Words
- Tokenization
- Stemming and lemmatization
- Bag of Words Model
- Word Vectorizer
- TF-IDF
- POS Tagging
- Named Entity Recognition

Sequential Models and NLP

- Introduction to Sequential data
- RNNs and its mechanisms
Vanishing & Exploding gradients in RNNs
- LSTMs - Long short-term memory
- GRUs - Gated recurrent unit
- LSTMs Applications
- Time series analysis
- LSTMs with attention mechanism
- Neural Machine Translation

Advanced Computer Vision

- Object Detection
- YOLO, R-CNN, SSD
- Semantic Segmentation
- U-Net
- Face Recognition using Siamese Networks

Introduction to GANs (Generative adversarial networks)

- Introduction to GANs
- Generative Networks
- Adversarial Networks
- How GANs work?
- DCGANs - Deep Convolution GANs
- Applications of GANs

Introduction to Reinforcement Learning (RL)

- RL Framework
- Component of RL Framework
- Examples of RL Systems
- Types of RL Systems
- Q-learning

PROJECTS

Projects as part of our programs fall into the following domains. Students of the PGP - AIML will work on projects on all areas mentioned, while learners as part of the PGP - ML program will work on areas limited to Machine Learning.

MACHINE LEARNING

- Supervised Learning
- Unsupervised Learning
- Ensemble Techniques
- Recommendation Systems

ARTIFICIAL INTELLIGENCE

- Neural Networks
- Computer Vision
- NLP
- Reinforcement Learning
- Recommendation Systems
- GANs(Generative adversarial networks)



LANGUAGES AND TOOLS

Participants of the PGP-AIML will work & develop expertise on all the tools mentioned below

PGP-AIML TOOLS



Keras



Pytorch



Tensor Flow



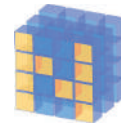
NLP library NLTK

Participants of the PGP-ML will work & develop expertise on all the tools mentioned below

PGP-ML TOOLS



Pandas



Numpy



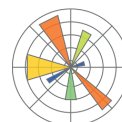
Scipy



Python



Scikit-learn



Matplotlib

FACULTY



DR. KUMAR MUTHURAMAN

H. Timothy (Tim) Harkins Centennial Professor
University of Texas at Austin



PROF. MUKESH RAO

Faculty, Machine Learning
Great Learning



DR. D NARAYANA

Faculty, AI and Machine Learning
Great Learning



PROF. ABHINANDA SARKAR

Academic Director
Great Learning



DR. AMIT SETHI

Faculty
IIT Bombay



DR. ARJUN JAIN

Adjunct Faculty Member, Department of
Computational and Data Sciences
IISc



Faculty has contributed to
program curriculum and online
learning content only

TESTIMONIALS



MANISH KUMAR

Senior Engineer

Tata Consulting Engineers Limited



The program learning experience has been smooth and great. The program is well structured and the learning content provided is up-to-date and covers both theoretical and industrial application aspects. Hands-on exercises and projects at the end of the module are really helpful in gaining confidence.



DHINESH KUMAR GANESHAN

Lead Consultant

Infosys



Great Learning's PGP-AIML Course is an eye-opener on future technologies and opportunities and is led by industry experts who put their efforts into ensuring that the knowledge is shared in the right sense. They try to help students to gain critical information that is important for their career success.

GREAT ALUMNI WORK IN LEADING COMPANIES

 Microsoft	 amazon	 Google	 YAHOO!
 Cognizant	 DELL	 hp	 IBM
 Adobe®	 Infosys®	 accenture	 MÆRSK
 ORACLE®	 intel	 Standard Chartered	 AMERICAN EXPRESS
 Deloitte.	 McKinsey&Company	 BARCLAYS	 yatra
 TARGET	 HCL	 PHILIPS	 SONY
 Honeywell	 NOKIA	 vmware®	 SAP®
 KPMG	 htc.	 Deutsche Bank	 QUALCOMM®
 TAJ	 verizon✓	 Jio	 EY
 Flipkart 	 citi	 Capgemini	 SAMSUNG
 Fractal	 J.P.Morgan	 zomato	 cisco.
 RBS	 Shell	 Hindustan Unilever Limited	 BOEING
 SIEMENS	 Morgan Stanley	 Mu Sigma	 vodafone

COMPARISON

S.no	Features	PGP ML (Online)	PGP ML (Blended)	PGP AIML (Online)	PGP AIML (Blended)
1	Duration	7 months	7 months	12 months	12 months
2	E-portfolio	✓	✓	✓	✓
3	PG Certificate (Great Lakes)	✓	✓	✓	✓
4	Github Repository	✓	✓	✓	✓
5	In-person real-time assistance from Subject Matter Experts	×	✓	×	✓
6	Personalized Mentorship from Industry experts	✓	×	✓	×
7	Career assistance	✓	✓	✓	✓
8	No. of projects	8	8	12	12
9	In-person interaction with faculty	×	✓	×	✓
10	Capstone project	✓	✓	✓	✓
11	Tools covered	Scikit-learn, Pandas, Numpy, Scipy, Matplotlib		Scikit-learn, Pandas, Numpy, Scipy, Matplotlib, Keras, TensorFlow, PyTorch, NLTK	
12	Hackathon	×	✓	×	✓
13	Classroom sessions	×	✓	×	✓
14	Access to labs	×	✓	×	✓

ADMISSION DETAILS

S. No	Features	PGP-ML (online)	PGP-ML (Blended)	PGP-AIML (online)	PGP-AIML (Blended)
1	Eligibility	Applicants should have a Bachelor's degree with a minimum of 50% aggregate marks or equivalent and familiarity with programming. For candidates who do not know Python, we offer a free pre-program tutorial.		Applicants should have a bachelor's degree with a minimum of 50% aggregate marks or equivalent. Preference will be given to candidates with Engineering, Mathematics, Statistics, and Economics background.	
2	Fees	1,50,000 + GST	2,50,000 + GST* <i>*(Includes tuition fee, lab access, learning materials, meals & refreshments on the days of classes.)</i>	2,40,000 + GST	3,60,000 + GST* <i>*(Includes tuition fee, lab access, learning materials, meals & refreshments on the days of classes.)</i>

Selection Process

Interested candidates need to apply by filling a simple online application form

The admissions committee and faculty panel will review the application, followed by a screening call to shortlist eligible candidates

Interested candidates need to apply by filling a simple online application form



Financial Aid

With our corporate financial partnerships avail education loans at 0% interest rate*. Loan Partner: HDFC Credila, Zest, eduvanz, Liquiloan.

**Conditions Apply. Please reach out to the admissions team for more details.*



PROGRAM PARTNERS



The University of Texas—Austin is one of the largest schools in USA. It was founded in 1883. Today UT Austin is a world-renowned higher education, research-intensive institution, serving more than 51,000 students annually with a teaching faculty of around 3,000. University of Texas at Austin is ranked #2 worldwide for Business Analytics according to the QS University rankings, #2 for science, technology, engineering and math (STEM) professionals according to Forbes and ranked #8 in Artificial Intelligence by the U.S. News & World Report Rankings 2018.



Great Lakes mission is to become a Center of Excellence in fostering managerial leadership and entrepreneurship in the development of human capital through quality research, teaching, residential learning and professional management services.



Great Learning's mission is to enable career success in the Digital Economy. It's programs always focus on the next frontier of growth in industry and currently straddle across Analytics, Data Science, Big Data, Machine Learning, Artificial Intelligence, Deep Learning, Cloud Computing and more. Great Learning uses technology, high-quality content, and industry collaboration to deliver an immersive learning experience that helps candidates learn, apply, and demonstrate their competencies. All programs are offered in collaboration with leading global universities and are taken by thousands of professionals every year to secure and grow their careers.



Learn more about the program



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