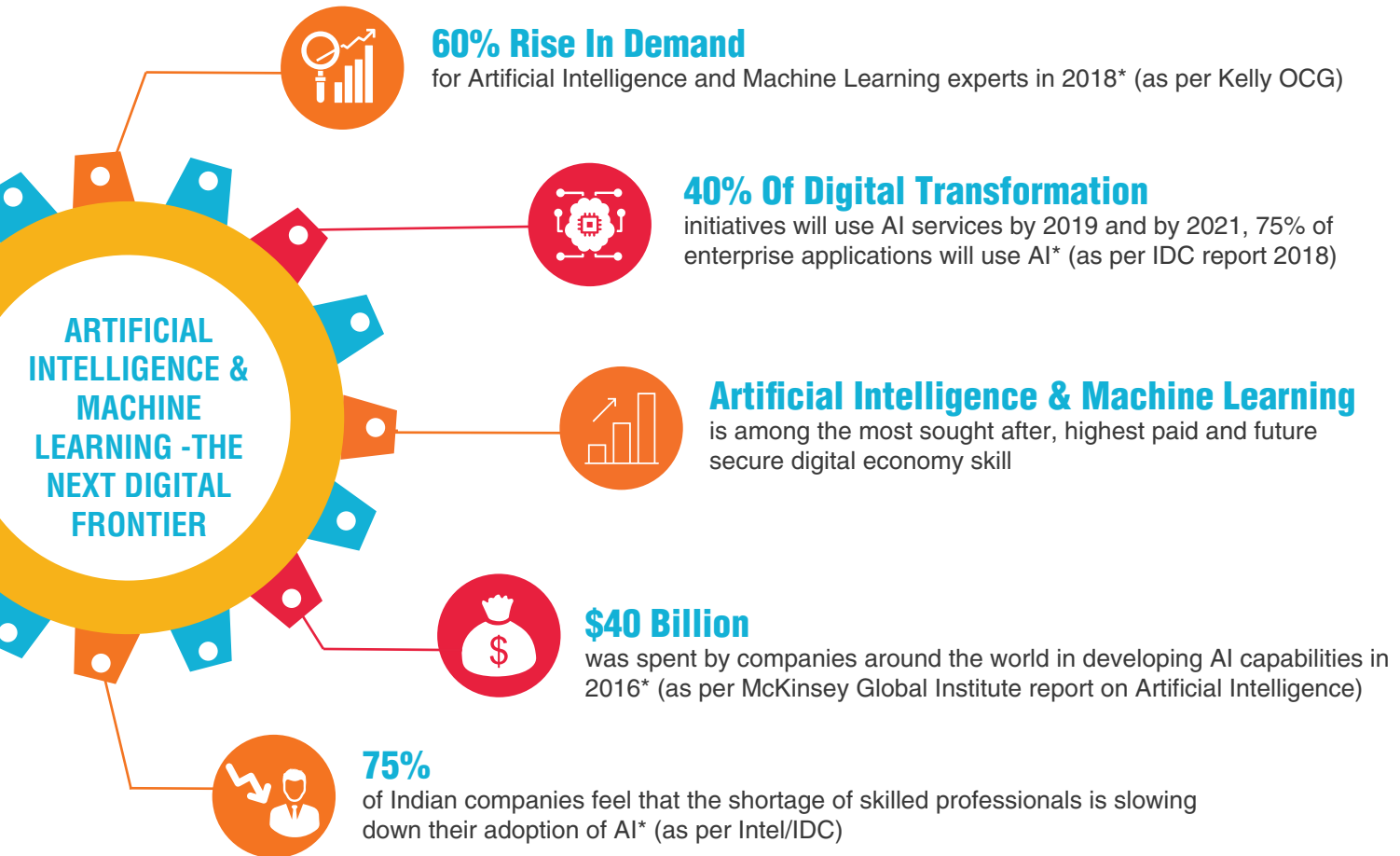


Post Graduate Program in
**Artificial Intelligence
& Machine Learning**







WHY GREAT LEARNING?



5000+
Students



4 Million
Hours of Learning Delivered



10
Top Ranked Programs



500+
Industry Experts



25+
India's Best Data Science Faculty



2000+
Career Transitions
amongst alumni



3000+
Successful Alumni



Covers Artificial Intelligence & Machine Learning technologies and applications including **Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Intelligent Virtual Agents, Neural Network, Tensor Flow** and many more.

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.

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.

1

Designed by leading **academic** and **industry experts** with **IIT-Bombay faculty**.

2

3

The program is offered in two formats, **a blended format (classroom sessions with online content) & online only (online videos with weekend mentorship sessions)**

4

5

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.

6



Develop expertise in popular AI & ML technologies and problem-solving methodologies

Develop the ability to **independently solve business problems** using AI & ML

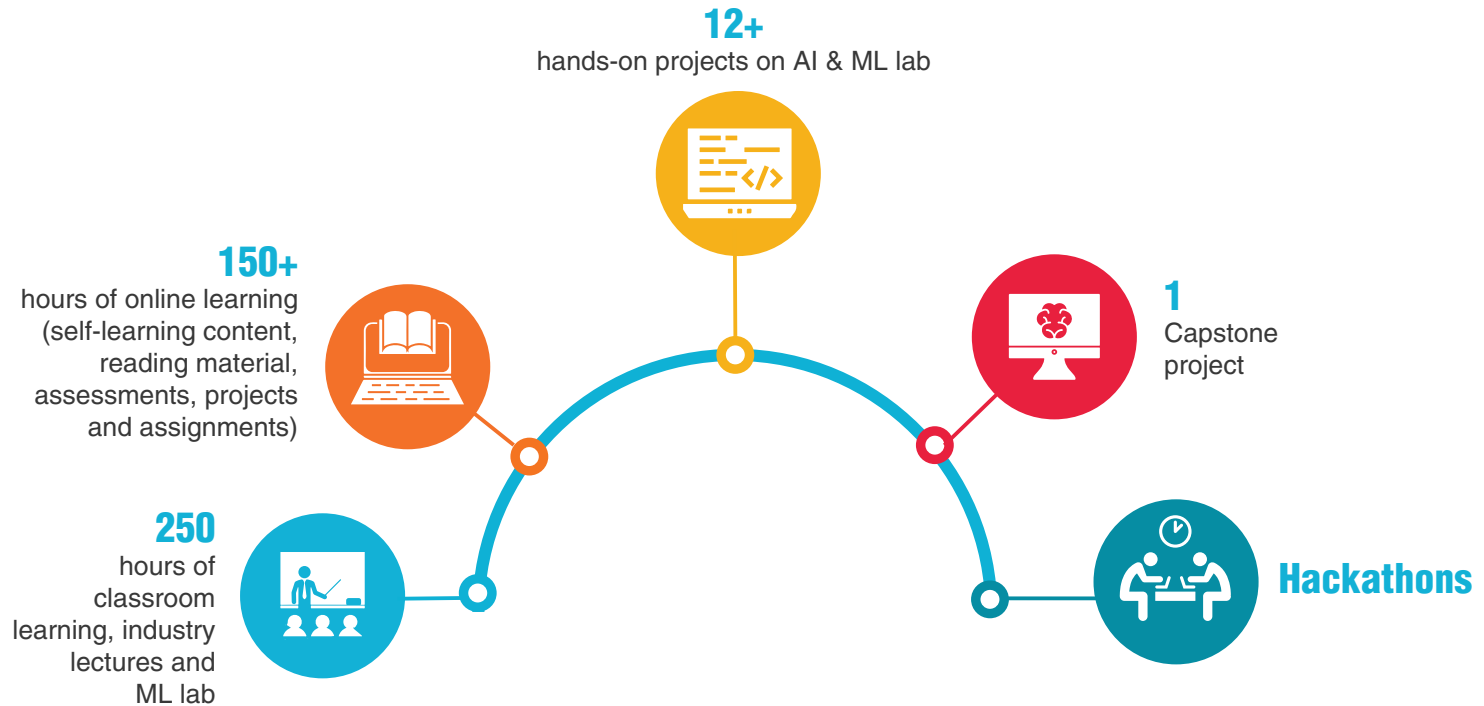
Learn to use popular **AI & ML technologies like Python, Tensorflow and Keras** to develop applications

Develop a verified **portfolio with 12+ projects** that will showcase the new skills acquired

Build expertise in **AI & ML** which are quickly becoming the most **sought-after skills around the world**



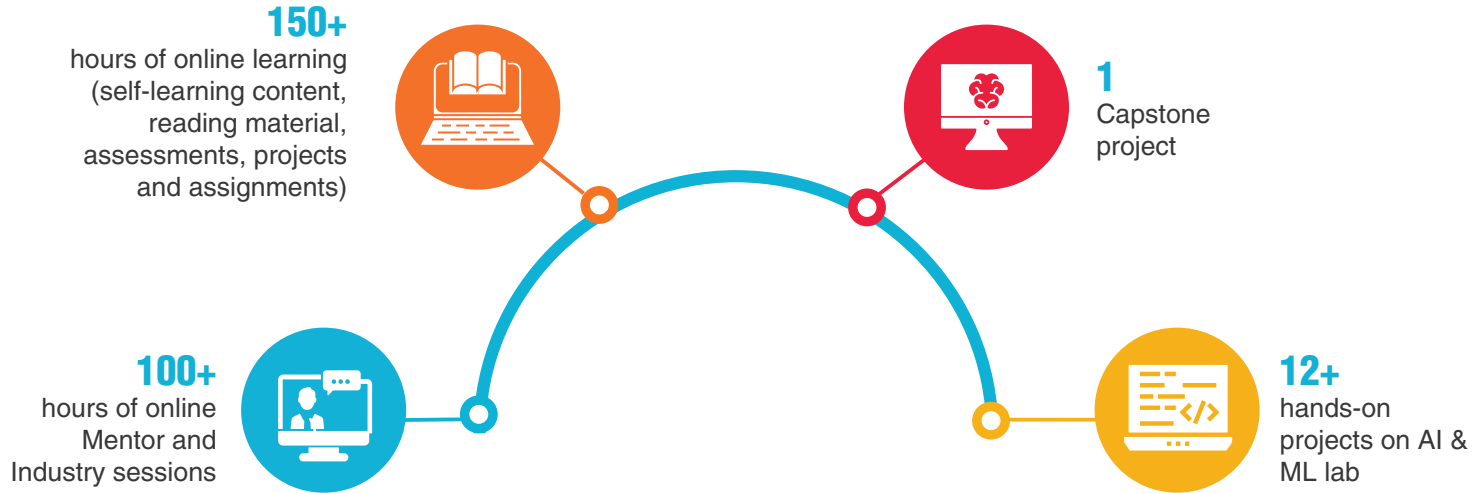
In this format, learning occurs through weekend classroom sessions & online content that includes videos, reading material & projects. More importantly, in-person interaction with peers and industry faculty helps learners gain additional insights & industry knowledge. Classroom sessions are available in Bangalore, Mumbai, Chennai, Gurgaon, Hyderabad & Pune.



12 Months | 30 Days of Classroom Sessions (Weekends)



In this format, learning occurs through online videos along with online mentorship sessions every weekend to clear doubts, reinforce concepts and for provide assistance on projects. The mentors come with substantial industry experience which helps learners gain an industry perspective. This guidance plays a critical role in making them industry-ready.



12 Months | 250+ hours of learning



FOUNDATIONS OF AI

- Python for AI (Significant Functions, Packages and Routines)
- Statistics & Probability (Descriptive & Inferential Stats, Probability & Conditional Prob)
- Visualization principles and techniques

MACHINE LEARNING

Supervised learning

- Regression (Linear, Multiple, Logistic)
- Classification (k-NN, Naïve Bayes) techniques
- Support Vector Machines

Unsupervised learning

- Clustering (k-means, hierarchical)
- Principal Component Analysis (PCA)

Featurization, Model Selection & Tuning

- Feature extraction
- Model Defects & Evaluation Metrics
- Model selection and tuning
- Comparison of Machine Learning models

Ensemble techniques

- Decision trees
- Boosting and Bagging
- Adaboosting, Gradient boosting
- Random Forests

Recommendation systems

- User & Item based Recommendation systems
- Collaborative filtering
- Content based filtering
- Hybrid Recommendation systems



DEEP LEARNING

Curriculum designed and lectured by IIT-Bombay faculty

Neural networks basics

- Neural Network Basics
- Deep Neural Networks
- Activation function, Loss function
- Optimisers, Drop outs, Regularization parameters
- Tensor Flow & Keras for Neural Networks & Deep Learning

Computer vision

- Pre-processing Image Data
- Convolutional Neural Networks
- Transfer Learning – ResNet, AlexNet, VGGNet, InceptionNet.
- Keras library for CNNs

Reinforcement learning

- Value-based methods (e.g. Q-learning)
- Policy-based methods

Visualization using tensorboard

- Visualizing features & kernels
- TensorBoard – Visualizing Learning, Graph Visualizationg
- Synthesis and style transfer
- Case Study: Visualizing a convoluted Neural Network

Natural language processing

- Text Extraction techniques
- Bag of words, TF-IDF, N-Grams
- Word2vec, GLOVE
- RNN
- LSTM
- Sentiment analysis
- Machine translation

Intelligent agents

- Uninformed and heuristic-based search techniques
- Adversarial search and its uses
- Planning and constraint satisfaction techniques



Here is a sample set of projects which you will be working as part of this program

NAME	A CAMPAIGN TO SELL PERSONAL LOANS
TOPICS	Supervised Learning
DESCRIPTION	Identify potential customers for a personal loan product for a bank, allowing the bank to design targeted marketing campaigns to increase conversion.
NAME	BANK NOTE ANALYSIS
TOPICS	Supervised Learning, Unsupervised Learning
DESCRIPTION	The project is about building a classification model to predict the authenticity of a bank note if it is counterfeit or genuine based on the characteristics of the image of the bank note.
NAME	PREDICT THE ONSET OF PARKINSON'S DISEASE
TOPICS	Supervised Learning, Boosting, Bagging & Random forest
DESCRIPTION	Traditional diagnosis of onset of Parkinson's disease is often difficult, as monitoring the onset requires repeated clinic visits by the patient. You will be building a Machine Learning algorithm over a recording dataset to predict the onset of the disease.

**NAME**

CUSTOMER SENTIMENT FROM AMAZON REVIEWS

TOPICS

Recommendation systems

DESCRIPTION

Build a recommendation model that can determine and predict the sentiments of the customer from text reviews on Amazon's website.

NAME

BIKE RENTAL RIDERSHIP

TOPICS

Neural Networks, Tensorflow, Keras

DESCRIPTION

Bike sharing services promise the convenience of bike usage without the need for ownership. A user is typically able to rent a bike from a particular location and return it at different locations. You will build a Neural Network which predicts the number of hourly and daily bikes rented, based on the environmental and seasonal settings.

NAME

IMAGE CLASSIFICATION

TOPICS

Image detection, Keras, Concurrent Neural Networks

DESCRIPTION

Image recognition is the process of identifying and detecting an object or a feature in a digital image or video. In this project, you will use the power of Convolutional Neural Network to make the machine learn relevant features from sample images and automatically identify those features in new images.

**NAME****FACE RECOGNITION****TOPICS**

Image detection, Edge detection, Concurrent Neural networks

DESCRIPTION

Facial recognition is a biometric solution that measures unique characteristics about one's face. Given an image or a video capture of a scene with one or more faces, the project is designed to use Convolutional Neural network to detect and classify each face as one of the persons whose identity is already known or as an unknown face.

NAME**HANDWRITTEN DIGIT RECOGNITION****TOPICS**

Neural networks, Clustering

DESCRIPTION

Given a series of handwritten digits, interpret these images and classify them appropriately to display actual numbers using neural networks.

NAME**FAKE NEWS DETECTION****TOPICS**

Natural Language processing, Recurrent Neural networks, Keras, NLTK

DESCRIPTION

Fake news is increasingly becoming a threat to our society. It is typically generated for increasing commercial interests—attract viewers and collect more advertising revenue. In this project, you will build a classifier model which can predict whether a piece of news is fake by using sequential models in Natural Language Processing.

**NAME**

NETWORK INTRUSION DETECTION

TOPICS

Clustering, Dimensionality reduction, Classification models

DESCRIPTION

Build a network intrusion detection system and improve the accuracy of your prediction using a series of ensemble techniques.

NAME

SILHOUETTE ANALYSIS

TOPICS

Clustering, PCA, Regression models

DESCRIPTION

The purpose of the case study is to build a model which can classify a given silhouette as one of three different types of vehicle, using a set of features extracted from the silhouette.

NAME

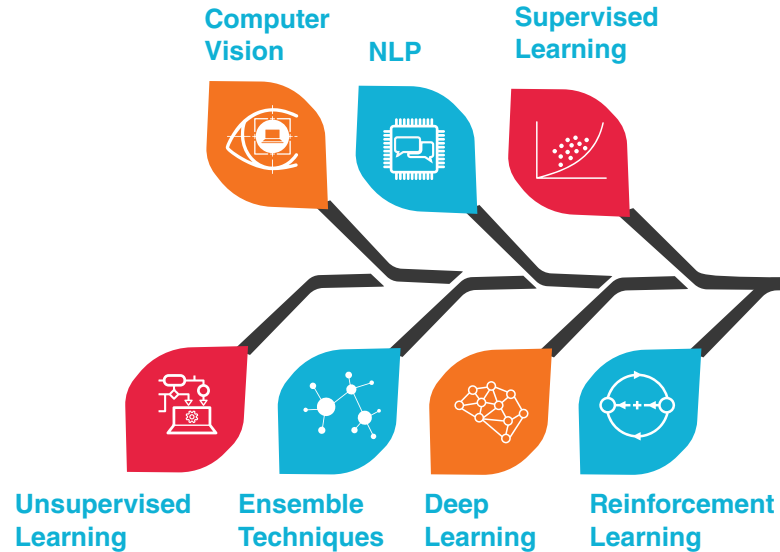
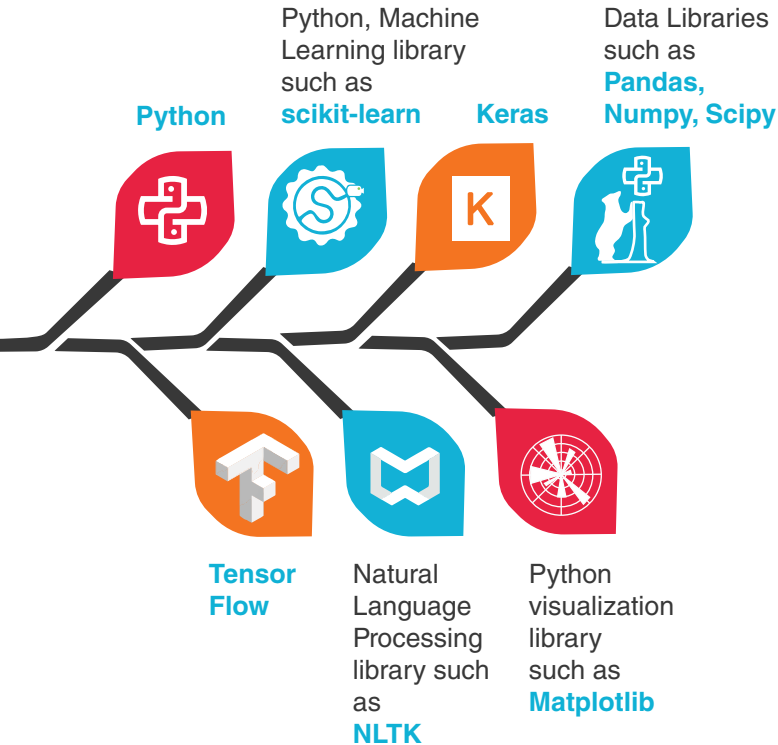
PREDICTING THE CHURN

TOPICS

PCA, Factor analysis, Regression models

DESCRIPTION

Build a powerful Machine Learning model, which can help a telecom company to predict and take action on the likely customers who can switch away from their services



**DR. AMIT SETHI***Faculty, IIT Bombay*

Prof. Sethi is currently a faculty member at IIT Bombay where his research is focused on applying deep learning methodologies to digital pathology for analysis of cancer tissues. He was previously a faculty member at IIT Guwahati and spent many years at ZS Associates, a leading management consulting firm, at their offices in Chicago.

Prof. Sethi holds MS and PhD degrees from University of Illinois at Urbana-Champaign and BTech from IIT Delhi.

**DR. ARJUN JAIN***Adjunct Faculty, IIT Bombay*

Dr. Jain is the co-founder of Perceptive Code, a Silicon Valley AI startup that builds intelligence into automobiles using Deep Learning. He is part of the Theano development team and a contributor to Torch - both of which are widely used libraries for Deep Learning.

Dr. Jain received his PhD from the Max Planck Institute in Germany and his post-doc from NYU where he worked with Yann LeCun.

**DR. P K VISHWANATHAN**

Professor, Analytics & Operations, Ph.D (Madras University)

Dr. PK Viswanathan, currently serves as a professor of analytics at Great Lakes Institute of Management. He teaches subjects such as business statistics, operations research, business analytics, predictive analytics, ML analytics, spreadsheet modeling and others.

In his industrial tenure spanning over 15 years, he has held senior management positions in Ballarpur Industries (BILT) of the Thapar Group and the JK Industries of the JK Organisation. Apart from executing corporate consultancy assignments, Dr. PK Viswanathan has also designed and conducted training programs for many leading organizations in India. **He is currently ranked among Top 10 Data Academicians in India.**

**MUKESH RAO**

Faculty, Machine Learning, Great Learning

Prof. Mukesh Rao has almost 3 decades of experience in the Analytics and Machine Learning industry. He has designed and implemented Machine Learning algorithms for abuse detection, social media analysis and report generation using MapReduce. Prior to this, Prof. Rao was with Wipro for over 12 years where he was the Head of PM Academy.

**DR. NARAYANA DARAPANENI**

Professor, Big Data & Machine Learning, Great Learning

Dr. Narayana has more than 11 years of industry experience and over 4 years' academic research experience. Over these years, he has worked as a professor, trader, project manager, team lead, and developer.

His area of expertise includes Machine learning, Optimization, Financial engineering and High frequency & algorithmic trading. He is proficient in R Language, Hadoop, Python & Big Data Technologies. He has published over ten research articles in international journals and conferences. He has taught courses in Big Data technologies, guided student projects and mentored students at premier institutes.

**GURUMOORTHY P**

Faculty, Data Science And Machine Learning

Mr. Gurumoorthy is a Techno-Functional Professional with over 10 years of experience in the IT & Analytics domains. He possesses an undergraduate degree in Mathematics & a Post Graduate degree in Actuarial Economics. He has headed the Global Analytics Team in one of the World's largest Shipping Companies and currently is the "Head of Industry Solutions" in the Analytics & Mobility spaces at a niche AR/VR/MR Start-up Company in Chennai.

He has handled over 400 hours of Analytics training classes/workshops for Corporate and Individuals early in his career. He started his career as an Entrepreneur, handling clients on multiple Web Analytics & SEO/SEM Consulting Projects.



**LAKSHMINARASIMHAN
SANTHANAM**

Director - Data Analytics
and Automation



This is a beautifully crafted Data Science program consisting of different aspects around statistics, Industry Sessions, Machine Learning, Artificial Intelligence and Data visualization. The program provides a good balance of theory and more practical application of different techniques covered through sessions taken by renowned faculty. It balances regular and online coursework amidst busy work schedules and learners get opportunities to engage with leading faculty and outstanding peers.



**SAI VENKATESHWARAN
SRINIVASAN**

Senior Technical
Lead



The peer learning aspect is something that you guys should definitely be proud of. I should say that I have been able to connect with wonderful people, both technically and personally, after enrolling in the program. We are learning and at the same time teaching others new concepts. I can definitely say that my connections with most of my colleagues in this program will continue for a very long time. I am always an advocate of the quote - "when you teach you learn more about what you teach". Here, my peers are both teachers and students enriching each other's technical expertise to a vast extent.



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



S.no	Features	PGP AIML (Online)	PGP AIML (Blended)
1	Eligibility	Applicants should have a minimum of 3 years of experience in a technology role , including some programming knowledge preferably in Python. For candidates who do not know Python, we offer a free pre-program tutorial.	
2	Fees	2,00,000 + GST	3,25,000 + GST

Selection Process

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

01

The Admissions committee and faculty panel will review the applications and shortlist candidates based on their profiles

02

Offer will be made to selected applicants

03

Payments

Candidates can pay the program fee through Net Banking, Credit Cards or Debit Cards.

Cities

The Program is available at Bangalore, Chennai, Gurgaon, Pune, Mumbai and Hyderabad.

Financial aid

Our tie-ups with several lending partners like HDFC Credila, Axis Bank, Avanse Education, Zest Money & Incred for students who need financial help, ensure that their path for learning remains smooth.



+91 95999 63674



aiml@greatlearning.in



greatlearning.in

