

upGrad

Generative AI & Machine Learning Bootcamp

Master the Future of Technology



*Terms & Conditions apply

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ABOUT UPGRAD

upGrad is an online education platform to help individuals develop their professional potential in the most engaging learning environment. With an exponential increase in demand for skilled individuals, our aim is to help working professionals upskill in emerging new-age technologies.

“Generative AI & Machine Learning Bootcamp” aims to deliver conceptual knowledge along with hands-on experience to ensure a successful start for your career in the industry. At upGrad, we aim to leverage technology in order to transform the way education is delivered in the digital age.



Our aim is simple:

We strive to create high-impact, hands-on experiences that prepare students for meaningful and productive careers.

Ronnie Screwvala

Co-founder and Executive Chairman

upGrad

ABOUT THE BOOTCAMP

Generative AI & Machine Learning Bootcamp is designed to provide participants with an in-depth understanding of AI/ML concepts, algorithms, and applications. Whether you're a software engineer seeking to transition into AI/ML roles, a data analyst looking to expand your analytical skills, or a tech enthusiast fascinated by the potential of AI/ML, our bootcamp is tailored for you. Through hands-on projects, real-world case studies, and expert guidance, you'll acquire the knowledge and practical experience needed to thrive in this rapidly growing field

This Bootcamp ensures that you can design and deploy databases with an understanding of Python, Machine Learning, Generative AI, Conversative AI, and Tree Models as well as deep learning, neural networks and natural language processing. Experience knowledge that extends the frontiers and help businesses leverage it to drive profitability



PROGRAM HIGHLIGHTS

70+

Hours of Instructor-Led Learning

100+ Hrs

Self-paced content

15+

Video Projects

16

Hours of Career Coaching Sessions

2

Mock Interviews

1

Master Class

70000+

Career Transition

52%

Average Salary Hike

4

Capstone Projects

10X

More employable

PROGRAM DETAILS



Program Duration

5 Months



Eligibility Criteria

Even though a bit of prior knowledge of math, fundamental statistics, and programming will help you on your AI journey, there are no eligibility requirements that must be met in order to enrol for our online AI & Machine Learning Bootcamp. The AI & Machine Learning Bootcamp syllabus is designed such that you can go from zero AI skills to expert-level skills as you learn



Program Fee

Upfront Payment

~~₹ 1,55,000~~ + GST ₹ 70,000 + GST

Bundled Bootcamp

~~₹ 310,000~~ + GST ₹ 90,000 + GST

(Data Science + Generative AI & ML)

Admission Process



Step 1:

Apply for the program



Step 2:

Complete your application



Step 3:

Clear the assessment test



Step 4:

Reserve your seat

WHY THIS BOOTCAMP?

The Genrative AI & Machine Language Bootcamp is designed by the best industry experts to help you kickstart your tech career. The core components of our program help us stand out from all alternatives you may have.

	Video Courses	Bootcamps	upGrad
Cloud Labs	No	No	Yes
Industry projects	No	Yes	Yes
Interview Opportunity*	No	No	Yes*
Career guidance sessions	No	Yes	Yes
Value for Money*	No	No	Yes
Top Product companies Instructors	No	No	Yes

- **Cloud Labs** is an intelligent immersive learning platform where you can practice your codes and receive instant feedback on areas of improvement.
- **Interview Opportunity*** Translate to an invitation to interviews from partner companies on meeting exit criteria*
- **Top Product companies Instructors** stand for instructors from the best tech firms in the world.

CAREER PATH WITH SALARY PACKAGES

Entry-Level / Junior AI/ML Engineer

INR 5 LPA – INR 7 LPA per year

AI/ML Engineer

INR 15 LPA – INR 30 LPA per year

Senior AI/ML Engineer

INR 30 LPA – INR 50 LPA per year

AI/ML Team Lead or Manager

INR 50 + LPA per year

AI/ML Researcher or Scientist

INR 75 + LPA per year



OUTCOME-BASED IMMERSIVE LEARNING

LEARN:

Get an engaging and immersive learning experience with a focus on rich video content, detailed explanations, and interactive elements such as flashcards and quizzes to reinforce learning.

PRACTICE:

Write code directly into your browser and get expert feedback. Practice and apply what you've learned in a hands-on manner.

ASSESS:

Explore diagnostic, module-level, and final assessments. Track your skills learning progression and demonstrate your knowledge and capabilities.

INSIGHTS:

Comprehensive reports offer deep insights for both learners and organizations. You can assess skills progression and make informed decisions about learning strategies.

APPLY:

Gain work-like experiences through industry-grade projects designed to simulate real-world scenarios. Apply your skills and knowledge in a practical setting, similar to developers in leading tech companies.

PROGRAM CURRICULUM

1. Mastering Python for Data Analysis and Applications

Understand the importance of Python for AI and ML, and revise basic Python concepts. Handle errors and exceptions in Python. Introduction to NumPy for efficient numerical computations and data manipulation

Topics
Covered

- Develop a deeper understanding of Python programming, including functions, modules, and error handling.
- Learn how to perform file input/output operations in Python.
- Learn to use NumPy and Pandas for data manipulation.
- Understand and apply data-cleaning techniques.
- Get introduced to basic data visualization using Matplotlib and Seaborn.
- Introduction to Python, Variables, and Data Types.
- Data Structures and Conditional Statements in Python
- Object-Oriented Programming and Python Best Practices

PROGRAM

CURRICULUM

2. Mathematics for Machine Learning

Understand the basics of calculus for machine learning. Learn about derivatives and their applications in machine learning. Explore linear algebra for machine learning. Understand eigenvalues and eigenvectors in linear algebra. Gain knowledge of probability theory and its role in machine learning. Explore statistical measures and probability distributions.

Topics Covered	<ul style="list-style-type: none">• Grasping Mathematics, Statistics, and Data Analysis• Understand the concepts of functions, limits, continuity, derivatives, integrals, and optimization in calculus.• Learn about vectors, matrices, matrix operations, eigenvalues, and eigenvectors in linear algebra.• Understand the basics of probability theory and statistical measures.• Learn about probability distributions, sampling, hypothesis testing, and regression analysis.
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PROGRAM

CURRICULUM

3. Introduction to Machine Learning

Understand the basics of machine learning and its types. Explore supervised learning - regression and classification. Understand unsupervised learning techniques. Introduction to ensemble methods and model selection. Introduction to deep learning and neural networks. Understand deep learning concepts and architectures.

Topics Covered	<ul style="list-style-type: none">• Understand the basics of machine learning, including the differences between supervised, unsupervised, and reinforcement learning.• Learn about regression and classification in supervised learning, including linear regression, logistic regression, decision trees, and support vector machines.• Understand the concepts of clustering and dimensionality reduction in unsupervised learning.
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PROGRAM CURRICULUM

4. AI Specialization and Capstone Projects

Perform Projects on Supervised Learning, Un-Supervised Learning, NLP or generative AI or reinforcement learning.

Topics Covered	<ul style="list-style-type: none">• Learn about natural language processing, including text preprocessing, a bag of words, TF-IDF, word embeddings, and transformer models.• Understand generative AI and reinforcement learning, including generative adversarial networks, variational autoencoders, Q-learning, and policy learning.• Apply the knowledge gained throughout the course in capstone projects involving supervised learning, unsupervised learning, and either NLP, generative AI, or reinforcement learning.
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5. Capstone Projects and Career Preparation

Perform Projects on Supervised Learning, Un-Supervised Learning, NLP or generative AI or reinforcement learning,

Topics Covered	<ul style="list-style-type: none">• Capstone Project - Supervised Learning.• Capstone Project - Unsupervised Learning.• Capstone Project - NLP or Generative AI or Reinforcement Learning
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PROJECT

PORTFOLIO



Predictive Modelling

Supervised Learning

Develop a predictive model that accurately forecasts insurance claims. By analyzing historical data related to claims, policyholders, and other relevant factors, you will train a supervised learning model, such as a decision tree or random forest, to predict the likelihood and severity of future claims. The goal is to optimize claim processing, improve efficiency, and enhance risk assessment in Max Life Insurance.



Customer Segmentation Analysis

Unsupervised Learning

Your objective is to analyze customer segments for Amazon and develop personalized marketing strategies. You will group customers based on purchasing behaviour, preferences, demographics, and other relevant variables by utilizing unsupervised learning techniques such as clustering algorithms (e.g., K-means or hierarchical clustering). You will identify patterns, preferences, and potential market opportunities by uncovering distinct customer segments. Present your customer segmentation results, along with actionable marketing recommendations.



Customer Support Chat Bot

NLP or Generative AI or Reinforcement Learning Capstone

Your task is to build an AI-powered chatbot for Twitter that understands customer queries and provides automated support. Using natural language processing (NLP) techniques, deep learning models, and advanced conversational AI frameworks, you will develop a chatbot capable of interpreting user inquiries, offering relevant solutions, and providing helpful information. The chatbot should be able to handle common technical support queries, troubleshoot common issues, and guide users through problem-solving processes. Test and evaluate the chatbot's performance, fine-tune its responses, and incorporate feedback loops to enhance its effectiveness. Present your chatbot prototype and demonstrate its capabilities.

PROJECT PORTFOLIO



Consumer Demographics

Data Handling with Python

Build a data analysis tool for marketing for Walmart. The agency works with various clients and receives datasets related to customer demographics, purchasing behaviour, and marketing campaign performance. The tool should be able to read different types of data files, clean and preprocess the data, perform exploratory data analysis, visualize key insights, and generate actionable recommendations for marketing campaigns. Use Python and incorporate the concepts learned during the first month, such as intermediate Python, data manipulation with Pandas and NumPy, and basic data visualization with Matplotlib and Seaborn.



SmartMart Customer Churn

Consumer Performance

Real-World Scenario Develop a machine learning model for a retail company called "SmartMart" to predict customer churn. The provided dataset contains customer information such as demographics, purchasing history, and engagement metrics. Use the concepts learned during the second month, including regression and classification algorithms, to build a predictive model that identifies customers who are likely to churn. Evaluate the model's performance using appropriate evaluation metrics and provide actionable recommendations to reduce customer churn.



Real Estate Property Segmentation

Image Recognition

Develop a deep learning model for image recognition for a real estate company named "PropertyVision." The company wants to automate the process of identifying and categorizing property images based on their features, such as the type of property (house, apartment, office), architectural style, and condition. Use Convolutional Neural Networks (CNNs) to train a model on a labelled dataset of property images. Fine-tune the model to improve its accuracy and ability to handle real-world images. Evaluate the model's performance using appropriate evaluation metrics and demonstrate its effectiveness in image recognition tasks. Provide a user-friendly interface for the real estate company to upload and classify property images automatically.

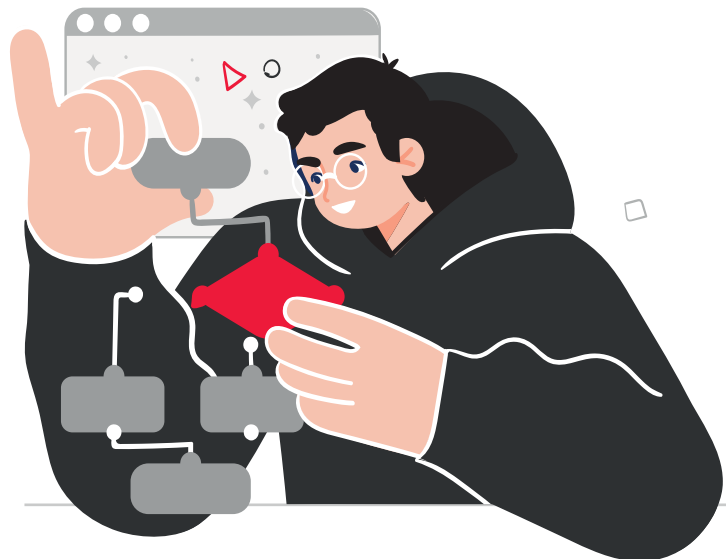
PROJECT PORTFOLIO

The logo for SmartHome SOLUTIONS, featuring the text "SmartHome" in a blue, pixelated font above the word "SOLUTIONS" in a solid blue font.

AI - Virtual Assistant

Smart Home - Speech Recognition

Real-World Scenario Create an AI-powered virtual assistant for "SmartHome Solutions," a company specializing in smart home automation. The virtual assistant should incorporate speech recognition, natural language processing (NLP), and gesture recognition capabilities. It should be able to understand voice commands from users, process and interpret the spoken language using NLP techniques, and respond accordingly. Additionally, it should recognize gestures to enable touchless control of smart home devices. Develop the virtual assistant using suitable AI and ML technologies, such as deep learning models for speech recognition and NLP, along with computer vision techniques for gesture recognition. Demonstrate the virtual assistant's functionality through interactions with various smart home devices, such as adjusting lighting, controlling temperature, or managing security systems.



OUR Program Authors



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OUR LEARNERS WORK AT COMPANIES LIKE

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KANTAR

Flipkart

fractal
INTELLIGENCE FOR IMAGINATION

ugam
POWERING ANALYTICS
INTO ACTION

CAREER SERVICES



Outcome Orientation

- Own your growth trajectory and launch your AI ML career with confidence. Get access to mock interviews, resume building, GitHub profile review, analysis and feedback.



Learn by Doing it Yourself

- Experience hands-on learning with industry projects.
- Discover the best industry practices.
- Learn through extensive coding sessions.



Immersive Learning

- On-demand videos
- Guided hands-on exercises
- Assessments, assignments and projects



Availability of CloudLabs

- Exclusive full-featured development environment
- Powered by a pro-grade virtual machine
- Build apps right in your web browser

TOOLS AND TECHNOLOGIES COVERED



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