



**IDEO**  
**COLLEGE**  
OF TECHNOLOGY



WE Are Offering a Complete Course Of  
**FULL STACK AI WITH DATA  
ANALYTICS**

*Course Duration:*  
**06 Months**



No:01 Office, 3rd Floor,  
Arfa Technology Park Lahore



03217891954



# About Us

Step Into the Future with IDEOCOLLEGE  
Dream big, skill up, and lead the digital revolution. At IDEOCOLLEGE, we don't just teach Internet Marketing - we empower you with the future: AI, Cybersecurity, and Blockchain. Join top-level mentors and unlock real career opportunities in the booming IT industry. Hundreds have transformed their lives - now it's your turn. Secure your seat today and shape a smarter tomorrow.



100+  
IT COURSE



80+  
INSTRUCTORS



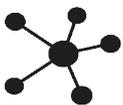
80,000+  
STUDENTS CONNECTED



Development



Marketing



Networking &  
Cyber Security



Art & Design



Multimedia



Business & Accounts



135+  
PARTNERS





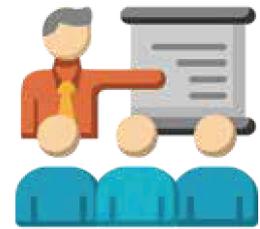
# SALIENT FEATURES



Ideoversity Certificate



Follow-Up Sessions



Practical learning



Students Portal



Virtual Internships



Expert Mentorship



Lifetime Support



Career Counseling





## FULL STACK AI / ML WITH COMPUTER VISION

### Python

- Syntax, Variables, Data Types
- Functions, Scope, Closures
- File Handling & Exceptions
- Asynchronous Python (asyncio, await)
- RESTful APIs & FastAPI / Flask
- Standard Libraries (os, json, datetime, etc.)
- Debugging & Testing (unittest, pytest)
- Google AI Studio, Gemini Integration
- Personalized Chatbot with Python (using OpenAI, LangChain etc.)
- Python Projects

### Git & GitHub

- Version Control with Git (init, add, commit, log)
- Branching, Merging, Conflict Resolution
- Using GitHub for Project Hosting & Collaboration
- Working with GitHub Projects, Issues, and Actions
- CI/CD Integration with GitHub Workflows
- Github web client and Github Desktop

### Data Science

- Python for Data Science
- Data Cleaning, Wrangling (Pandas, NumPy)
- Exploratory Data Analysis (EDA)
- Data Visualization (Matplotlib, Seaborn, Plotly)
- Feature Engineering
- Time Series & Anomaly Detection
- Statistical Analysis & Hypothesis Testing
- Data Versioning (DVC, MLflow)
- Excel to Python Transition for Analysts





## Machine Learning (ML) and Deep Learning (DL)

- ML Concepts: Supervised vs Unsupervised Learning
- Regression, Classification, Clustering, PCA
- Routing and Navigation
- Model Selection & Hyperparameter Tuning (GridSearchCV, Optuna)
- DL Concepts: Perceptrons, Backpropagation
- CNNs, RNNs, Transformers (BERT, GPT)
- Transfer Learning, GANs
- Frameworks: Scikit-learn, TensorFlow, Keras, PyTorch
- Model Deployment: Flask, FastAPI, HuggingFace, ONNX, Sagemaker, TensorFlow Lite
- ML/DL Projects: OCR, Face Recognition, Image Classifier, Time Series Forecaster

## Generative AI (Gen AI)

- Prompt Engineering (Few-shot, Zero-shot, Chain of Thought , etc.)
- LLMs: GPT, Claude, Gemini, Mistral, Grok
- Image Gen: DALL·E, Gemini, Image FX, Grok
- Audio: MusicGen, TTS, ElevenLabs, Narakeet
- Video: Sora, RunwayML, Invideo AI Google Veo 3
- Multimodal Models (CLIP, Flamingo)
- AI Tools: Notion AI, Canva Magic Write, ChatGPT Plugins, Microsoft Designer
- AI Use Cases: Email Writer, Avatar Gen, Voice Cloner
- API Integration: OpenAI, HuggingFace, Replicate
- Fine-tuning & Custom GPTs

## Agentic AI & Autonomous Agents

- Agentic AI Foundations: Autonomous, Tool-Using Agents





- Agent Architectures: BDI, Reflex, Planner, Hierarchical
- Multi-Agent Systems (Swarm Intelligence, Collaboration)
- LangChain: Tool-Calling, ReAct, Plan & Execute
- LangGraph: Workflow Graphs for Agents
- LangSmith: Tracing, Evaluation, Feedback Loops
- CrewAI, N8N Workflows for Automation
- Google A2A Protocol, MCP Server
- Google Agent Development Kit
- Conversational Agents with Memory & Tools
- Ethical & Safe Agent Design Principles

## Computer Vision - Object Detections

- Introduction to Object Detection & Applications
- Image Preprocessing & Augmentation (OpenCV, Albumentations)
- Classical vs Deep Learning Detection (Haar, HOG, R-CNN, SSD)
- YOLO Family & Ultralytics (YOLOv1 - YOLOv12)
- Transformers for Detection (DETR,  $\overline{\text{RT}}$ -DETR)
- Dataset Preparation & Annotation (COCO CVAT, VOC, LabelImg, Roboflow)
- Training & Evaluating YOLO Models (mAP, PR Curve, Confusion Matrix)
- Real-Time Detection & Object Tracking (SORT, DeepSORT, ByteTrack)
- Model Deployment (FastAPI, Streamlit, Flask, Edge Devices, Cloud)

## Target Jobs

- Python Developer
- Backend Developer (Python + APIs)





- AI/ML Developer (Beginner to Intermediate)
- Data Analyst (Python, Pandas, Visualization)
- Junior Data Scientist
- Machine Learning Engineer
- Deep Learning Engineer (CNNs, Transformers)
- Generative AI Engineer (LLMs, Image/Audio/Video AI)
- AI Research Assistant
- AI/ML Integration Developer (with LangGraph, Gemini, OpenAI)
- Agentic AI Engineer (LangChain, LangGraph, CrewAI)
- Autonomous AI Systems Developer
- Computer Vision Engineer (YOLO, DETR)
- Edge AI / Embedded Vision Developer (TFLite)
- Freelance Python & AI Developer





**IDEO**  
**COLLEGE**  
OF TECHNOLOGY



# BE A PART OF BIGGEST

## IT TRAINING INSTITUTE

### About Us

80,000+ Alumni :: 100+ Courses :: 85+ MOU Signed  
100+ Professional Instructors :: Online Trainings, LMS  
JOB & Internship Opportunity

Head Office: No: 02 Office, 3rd Floor, Arfa Technology Park Lahore.  
Faisal Town Branch: Maulana Shaukat Ali Rd Plot 941 Block C  
Faisal Town, Lahore.



No:01 Office, 3rd Floor,  
Arfa Technology Park Lahore



03217891954