

VERSION IT

Since 2001



Generative AI



Best Training And Placement Institute



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About Version IT

Version IT is not a mere software training institute, a team of IT professionals developed it as the best knowledge centre for hundreds of career-building conscious young people. Our training academy is the best training institute in Hyderabad offering various software courses with aptly placement orientation. We proudly announce that we achieved 100% placements in every batch we have taken up in the past two decades. Version IT Academy's strength is our academic excellence with which we have been placed in the top position among the software training institute in Hyderabad.



Corporate Training



Class Room Training



Online Training

Why Choose Us!

Training By Certified Instructors



Mock Interviews



**Weekly
Assignments**



Project Training



**Interview
Cracking tips**



**Resume
Preparation**

GEN AI Course Curriculum

Introduction to the Course

- Introduction-What We will Learn In This Course

Introduction to Python

- Getting Started With Python
- Python Basics-Syntax
- Variables In Python
- Basics Data Types In Python
- Operators In Python

Python Control Flow

- Conditional Statements (if, elif, else)
- Loops

Data Structures Using Python

- Lists and List Comprehension
- Tuples
- Dictionaries
- Sets

Functions in Python

- Getting Started With Functions
- Lambda Function In Python
- Map Function In Python
- Filter Functions In Python

Importing, Creating Modules and Package

- Import Modules And Packages
- Standard Libraries Overview

File Handling

- File Operations With Python
- Working with File Paths

Exception Handling

- Exception Handling With `try` `except` `else` and `finally` blocks

OOPs

- Classes & Objects
- Single And Multiple Inheritance
- Polymorphism
- Encapsulation
- Abstraction

Machine Learning for Natural Language Processing (NLP)

- Tokenization
- Text Pre-processing
 - Stemming
 - Lemmatization
 - Stopwords
- Text Vectorization
 - Bag Of Words
 - N Grams
 - TF-IDF
- Word Embeddings
 - Word2Vec
 - CBOW
 - Skip Grams
 - GloVe
- Parts Of Speech Tagging
- Named Entity Recognition

Deep Learning for Natural Language Processing (NLP)

- Welcome to the module on DL
- Introduction to DL
- Understanding Deep Learning

Artificial Neural Networks

- What is a Neuron
- Activation Functions
- Step Function Linear Function
- Sigmoid Function
- TanH Function
- ReLU Function
- Backpropagation vs Forward Pass
- Gradient Descent
- ANN Intuition
- ANN (Hyper Parameter Optimization)
- Step By Step Training With ANN

- Optimizer
 - Loss Functions
- Finding Optimal Hidden Layers And Hidden Neurons In ANN

Recurrent Neural Networks

- RNN Forward Propagation with Time
- Simple RNN Backward Propagation
- Problems With RNN
- End to End Deep Learning Projects with Simple RNN

Long Short Term Memory (LSTM)

- Why LSTM
- LSTM Architecture
- Forget Gate In LSTM
- Input Gate And Candidate Memory In LSTM
- Output Gate In LSTM
- Training Process In LSTM
- Variants Of LSTM
- GRU RNN Indepth Intuition

- LSTM and GRU End to End Deep Learning Project

Bidirection RNN

- Bidirectional RNN
 - Why To Use It?
 - Advantages & disadvantages
 - Applications

Encoders

- Introduction to Encoders
- Encoder Architecture
- Introduction to BERT
- BERT Configurations
- BERT Fine Tuning
- BERT Pre Training(Masked LM)
- Input Embeddings BERT
- RoBERTa
- DistilBERT
- ALBERT

Decoders

- Introduction to Decoders
- Decoder Architecture
- GPT Architecture
- GPT (Masked Multi Head Attention)
- GPT Training

Sequence to Sequence Architecture

- Encoder and Decoder
- Indepth Intuition oF Encoder & Decoder
- Sequence to Sequence Architecture
- Problems With Encoder and Decoder

Attention Mechanism

- Seq2Seq Networks
- Attention Mechanism Architecture

Transformers

- What and Why To Use Transformers
- Understanding The basic Architecture of Encoder
- Self Attention Layer Working
- Multi Head Attention
- Feed Forward Neural Network With Multi Head Attention
- Positional Encoding
- Layer Normalization
- Layer Normalization Examples
- Complete Encoder Transformer Architecture
- Decoder-Plan Of Action
- Decoder-Masked Multi Head Attention
- Encoder and Decoder Multi Head Attention
- Decoder Final Linear And Softmax Layer

Introduction to Generative AI

- What is Generative AI- AI Vs ML Vs DL Vs Generative AI
- How Open AI ChatGPT or LLaMA3 LLM Models are trained
- Evolution of LLM Models All LLM Models Analysis
-

Data Preprocessing and Embeddings

- Data Preprocessing
 - Cleaning
 - embeddings
- End to end Generative AI Pipeline

Introduction to Large Language Models

- Introduction to Large Language Models & its architecture
- In depth intuition of transformer – Attention all your need paper
- How ChatGPT is trained.

Huggingface Platform and its API

- **Introduction of hugging face**
- **Hands on Hugging Face – Transformers, HF Pipeline, Datasets, LLMs**
- **Data processing, tokenizing and feature extraction with hugging face**
- **Fine – Tuning using a pretrain models**
- **Hugging face API key generation**
- **Project: Text summarization with hugging face**
- **Project: Text to Image generation with LLM with hugging face**
- **Project: Text to speech generation with LLM with hugging face**
- **Huggingface Platform and its API**

Complete Guide to OpenAI

- **Introduction to OpenAI**
- **What is OpenAI API and how to generate OpenAI API key?**
- **Local Environment Setup**
- **Hands on OpenAI – Chat completion API and Completion API**
- **Function Calling in OpenAI**
- **Project: Fine-tuning of GPT-3 model for text classification**
- **Project: Audio Transcript Translation with Whisper**
- **Project: Image generation with DALL-E**

Vector Database

- **Vector Databases**
- **Vector Index vs Vector Database**
- **How Vector db works**
- **Vector Database (Practicals)**

Introduction to Langchain for Generative AI

- **Complete Langchain Ecosystem**
- **Creating Virtual Environment**
- **Getting Started With Langchain And OpenAI**

Lang Chain – Basic to Advance

- **Introduction & Installation and setup of langchain**
- **Prompt Templates in Langchain**

- **Chains in Langchain**
- **Langchain Agents and Tools**
- **Memory in Langchain**
- **Documents Loader in Langchain**
- **Multi-Dataframe Agents in Langchain**
- **How to use Hugging face Open Source LLM with Langchain**
- **Project: Interview Questions Creator Application**
- **Project: Custom Website Chatbot**

Components & Modules in Langchain

- **Introduction To Basic Components And Modules in Langchain**
- **Data Ingestion With Documents Loaders**
- **Text Splitting Techniques**
 - Recursive Character Text Splitter
 - Character Text splitter
 - HTML Header Text Splitter
 - Recursive Json Splitter
- **OpenAI Embedding**
 - Ollama Embeddings
 - Huggingface Embeddings

Open Source LLM

- **Introduction to open source LLMs – Llama**
- **How to use open source LLMs with Langchain**
- **Custom Website Chatbot using Open source LLMs**
- **Open Source LLMs - Falcon**

Retrieval Augmented Generation [RAG]

- **Introduction & Importance of RAG**
- **RAG Practical demo**
- **RAG Vs Fine-tuning**
- **Build a Q&A App with RAG using Gemini Pro and Langchain**
- **Retrieval Augmented Generation (RAG)**

Fine Tuning LLMs

- **What is fine tuning?**

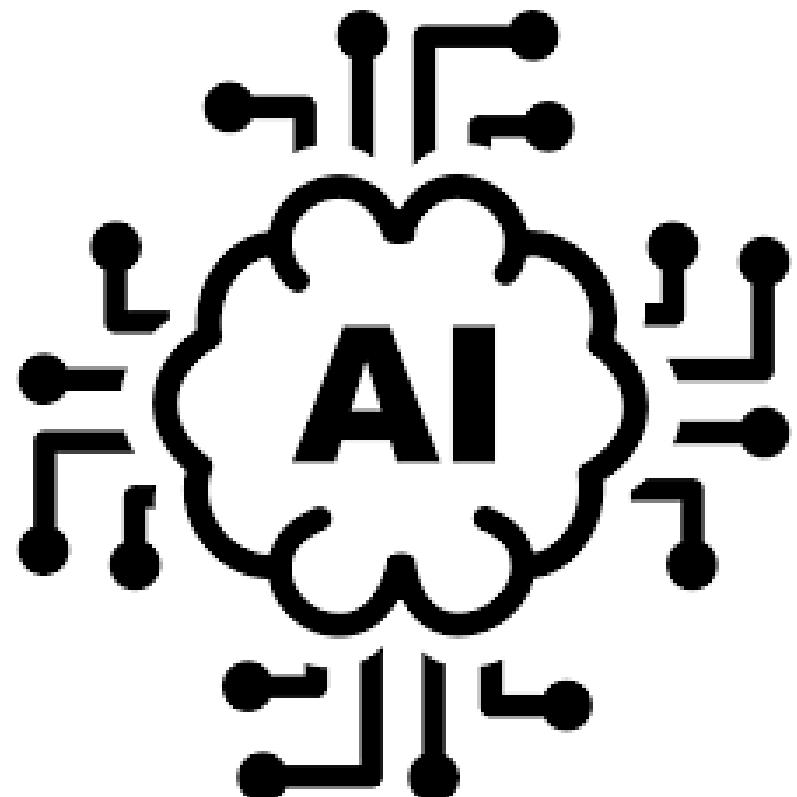
- Parameter Efficient Fine – Tuning
 - LoRA
 - OLoRA
 - Meta Llama 2 on Custom Data

Llamaindex – Basic to Advance

- Introduction to Llamaindex & end to end Demo
- Project: Financial Stock Analysis using Llamaindex

LLM Apps Deployment

- How to Deploy Generative AI Application
 - Flask
 - AWS



Our Alumni Work At



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Our Other Courses

Development Technologies

Java Full stack



Python Full stack



.Net Full stack



E



M **E** **R** **N**



M **E** **A** **N**

React



Cloud Technologies



Dev Ops



Salesforce



servicenow

Triending Technologies

Data Science



Data Analytics



Cyber Security

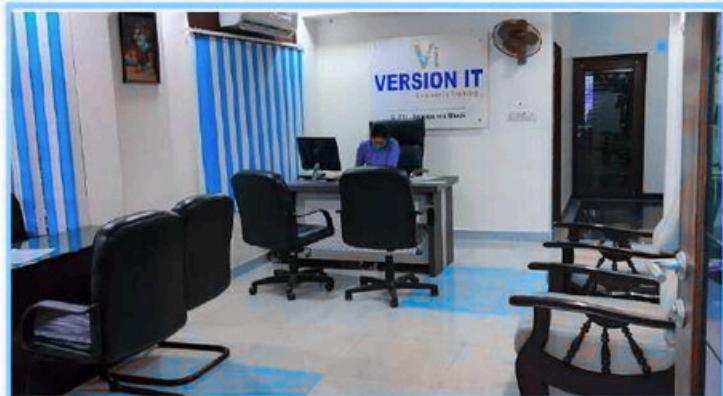


Azure Data Engineer

Aws Data Engineer

GCP Data Engineer

Our Infrastructure



Our Branches

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