GALTech
School of Technology Pvt. Ltd.

2025

AI AGENTS
PYTHON, MACHINE LEARNING, NLP, N8N AI AUTOMATION TOOL

ABOUT GALTECH SCHOOL OF TECHNOLOGY

GALTech School of Technology is a premier IT Finishing School dedicated to equipping aspiring professionals with cutting-edge skills in today's fast-paced tech world. We offer a diverse and industry-relevant range of programs, including Full Stack Development, Data Science, Digital Marketing, Artificial Intelligence, and Data Analytics, all designed to meet the evolving needs of the tech industry.

Our hands-on approach to learning, combined with real-world projects and expert mentorship, ensures students gain both confidence and practical experience. With a strong focus on innovation, up-to-date technology, and career-oriented training, GALTech prepares students not just for jobs, but for impactful careers in technology.

Whether you're starting your journey or upskilling for a new opportunity, GALTech is your trusted partner for success in tech.

COURSE CERTIFICATIONS

- **Internship Certification from GALTech Technologies**
- **GALTech School Course Completion Certification**

COURSE CONTENT

Week 1: Python Basics & Data Structures

- Python interpreter, installation, and environment setup
- Introduction to Anaconda, Jupyter Notebook, Google Colab
- Python basics: Operators, functions, loops, conditionals
- Data Structures: Lists, Tuples, Sets, Dictionaries
- Control flow: if-else, for, while loops
- Loop control statements: break, continue, pass

Hands-on Lab:

- Using Python as a calculator & basic programming
- Writing the first Python script & understanding debugging
- Working with files in Python (text, CSV, JSON)
- Writing modular code using Python functions

Week 2: Python OOP, Exception Handling, & JSON

- Functions: Parameters, arguments, recursion, lambda functions, built-in functions
- Python Modules & Packages
- File handling: Reading/ Writing Files
- Exception Handling: Try-except, raising custom errors
- Object-Oriented Programming (OOP): Classes, objects, methods
- Working with JSON: JSON syntax, parsing, serialization

Hands-on Lab:

- Implementing classes, objects, and methods in Python
- Handling exceptions with try-except blocks and custom errors
- Reading from/writing to files and parsing JSON data

COURSE CONTENT

Week 3: Python for Data Science & EDA

- Introduction to NumPy & Pandas
- Data manipulation with Pandas

Hands-on Lab:

- Loading and cleaning datasets with Pandas
- Creating plots and visualizing data trends

Week 4: Machine Learning Algorithms (Part 1)

- Supervised Learning: Regression & Classification
- Regression Models: Linear Regression & Multiple Linear Regression
- Classification Models: Logistic Regression, Decision Tree, Random Forest

Hands-on Lab:

- Building regression & classification models in Scikit-Learn
- Evaluating model performance using accuracy, precision, recall

Week 5: Machine Learning Algorithms (Part 2)

- Unsupervised Learning: Clustering (K-Means, Hierarchical Clustering) & Dimensionality Reduction (PCA)
- Introduction to Reinforcement Learning

Hands-on Lab:

- Implementing clustering algorithms in Scikit-Learn
- Applying PCA for dimensionality reduction

COURSE CONTENT

Week 6: Deep Learning & Neural Networks

- Basics of Neural Networks & Deep Learning
- Introduction to TensorFlow
- Building a basic Neural Network

Hands-on Lab:

- Implementing a simple neural network with TensorFlow/Keras
- Training a deep learning model on sample datasets

Week 7: NLP & Transformers

- NLP Fundamentals: Tokenization, Stemming, Lemmatization
- Word Embeddings: Word2Vec, BERT
- Introduction to Transformers and LLM:
    - GPT, BERT, LLaMA
    - Hugging Face & Pretrained Models

Hands-on Lab:

- Sentiment analysis using NLTK
- Using Hugging Face Transformers to generate text

Week 8: AI Agents

- What are AI agents?
- Types of AI agents: Reactive, Proactive, Learning, Multi-Agent
- Using LLMs for AI Agents
- Fine-tuning vs API-based approaches
- Memory & context management in AI conversations
- Introduction to frameworks - LangChain

COURSE CONTENT

Week 9: LangChain & Low-Code AI Automation

- Prompt Engineering Techniques
  - Zero-shot & few-shot learning
  - Chain-of-thought prompting
- Building API-based AI Agents
  - LangChain for API connections
  - OpenAI function calling
  - Hugging Face models for multimodal AI

Week 10: Low-Code AI Automation

- Introduction to Low-Code AI Agent
- n8n interface and workflow design
- Automating email responses and customer interactions
- Telegram chatbot

Hands-on Lab:

- Building an AI-powered chatbot using OpenAI API
- Creating n8n workflows for AI automation

Week 11 - 12: Capstone Project

- Choose a Capstone Project from the following:
  - Conversational AI Chatbot with OpenAI & LangChain
  - AI-powered email Automation using n8n & OpenAI
- Live demo & project presentation

CONTACT US

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MONDAY THROUGH SATURDAY
from 9:00 am to 6:00 pm