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## Workshop 1: Python Mastery for Data Analysis and Automation

| Duration | 2 Days |
|---|---|
| Topics | |
| | - Python Basics & OOP Concepts |
| | - Python Modules: |
| | - Web Scraping (Requests & BeautifulSoup) |
| | - Regular Expressions, OS, Collections, String, Math, Random |
| | - Data Analysis & Visualization: |
| | - Numpy, Pandas, Matplotlib, Seaborn |

## Workshop 2: Advanced SQL and Machine Learning Fundamentals

| Duration | 3 Days |
|---|---|
| Topics | |
| | - SQL Commands: Query Writing, Window Functions, Nested Queries, Joins |
| | - Machine Learning with Scikit-learn: |
| | - Supervised Learning: Regression, Classification Models |
| | - Unsupervised Learning |

## Workshop 3: Deep Learning and Natural Language Processing

| Duration | 1 Week |
|---|---|
| Topics | |
| | - Deep Learning with Neural Networks: |
| | - Artificial Neural Network (ANN) |
| | - Convolutional Neural Network (CNN) |
| | - Recurrent Neural Network (RNN) |
| | - Word Embeddings & Transformers: |
| | - Word2Vec |
| | - Transformers (Encode, Decode, Encode-Decode) |

## Workshop 4: Building Intelligent Applications with LLMs and LangChain

| Duration | 3 Days |
|---|---|
| Topics | |
| | - Large Language Models (LLMs): Deployment, Prompt Engineering |
| | - LangChain & Agents with CrewAI |

## Workshop 5: Web and Cloud Development for AI Applications

| Duration | 1 Week |
|---|---|
| Topics | |
| | - Web Development: |
| | - HTML, CSS (Front End) |
| | - Flask, Streamlit (App Development) |
| | - Cloud Deployment & Development: |
| | - Cloud Platforms (AWS, Azure, GCP) |
| | - Deployment Pipelines |