AI Career Accelerator Program

Fundamentals → AI → Generative → AI Agentic → Cloud → MLOps

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Welcome to EduArn

- Industry-focused learning platform
- Designed by working professionals
- Project-based training methodology
- Focus on AI, Cloud and Automation
- Hands-on labs every week
- Career mentorship included
- Portfolio development guidance
- Interview preparation support
- EduArn Community’s

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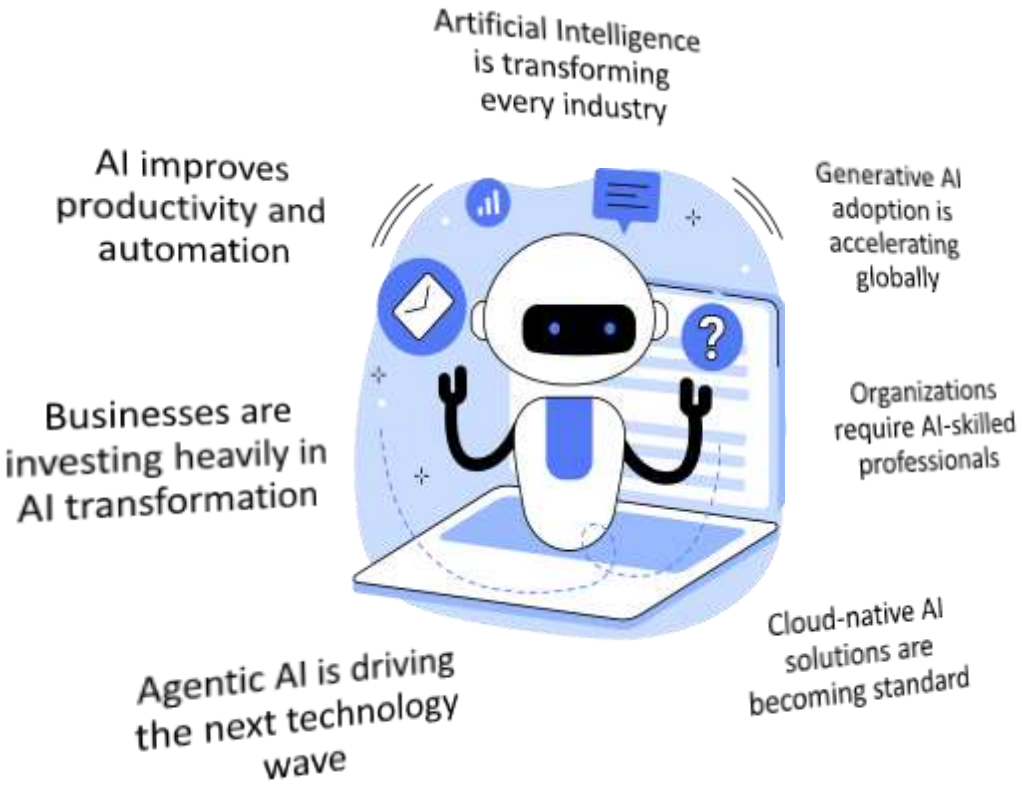
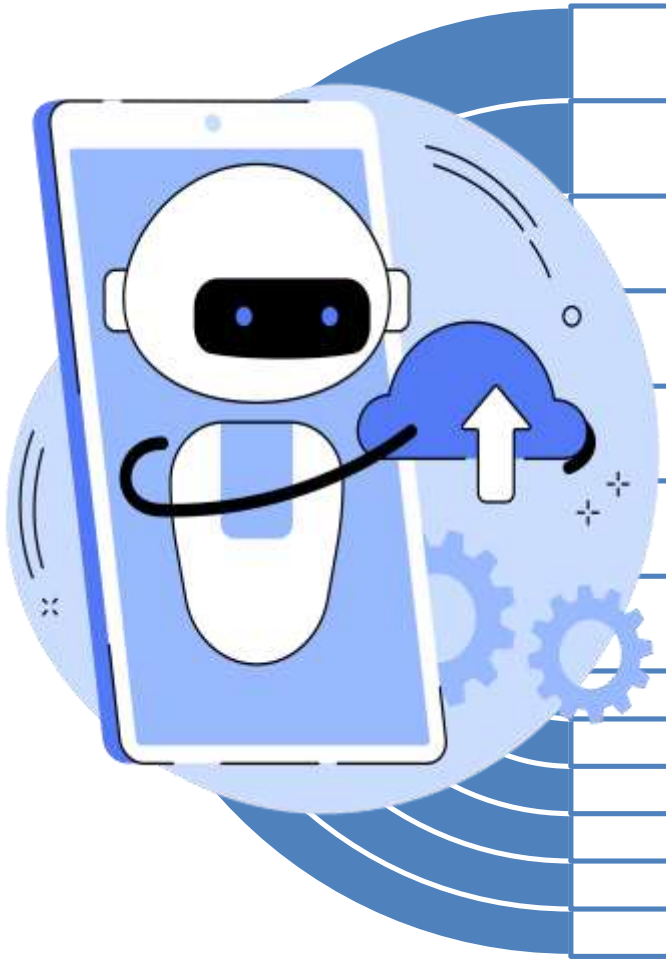
Why AI Now?



AI Industry Growth



- AI market continues exponential growth
- Generative AI investments increasing rapidly
- Enterprise AI adoption becoming mainstream
- Organizations building dedicated AI teams
- AI transforming healthcare, finance and retail
- Cloud providers expanding AI services
- Growing demand for AI Engineers

Global Demand for AI Engineers

- Talent shortage creates opportunities
- MLOps skills are required for production systems
- Cloud AI Engineers are in demand
- AI Automation roles are increasing
- Generative AI expertise is highly valued
- Companies seek practical AI experience
- AI Engineers are among the fastest growing roles

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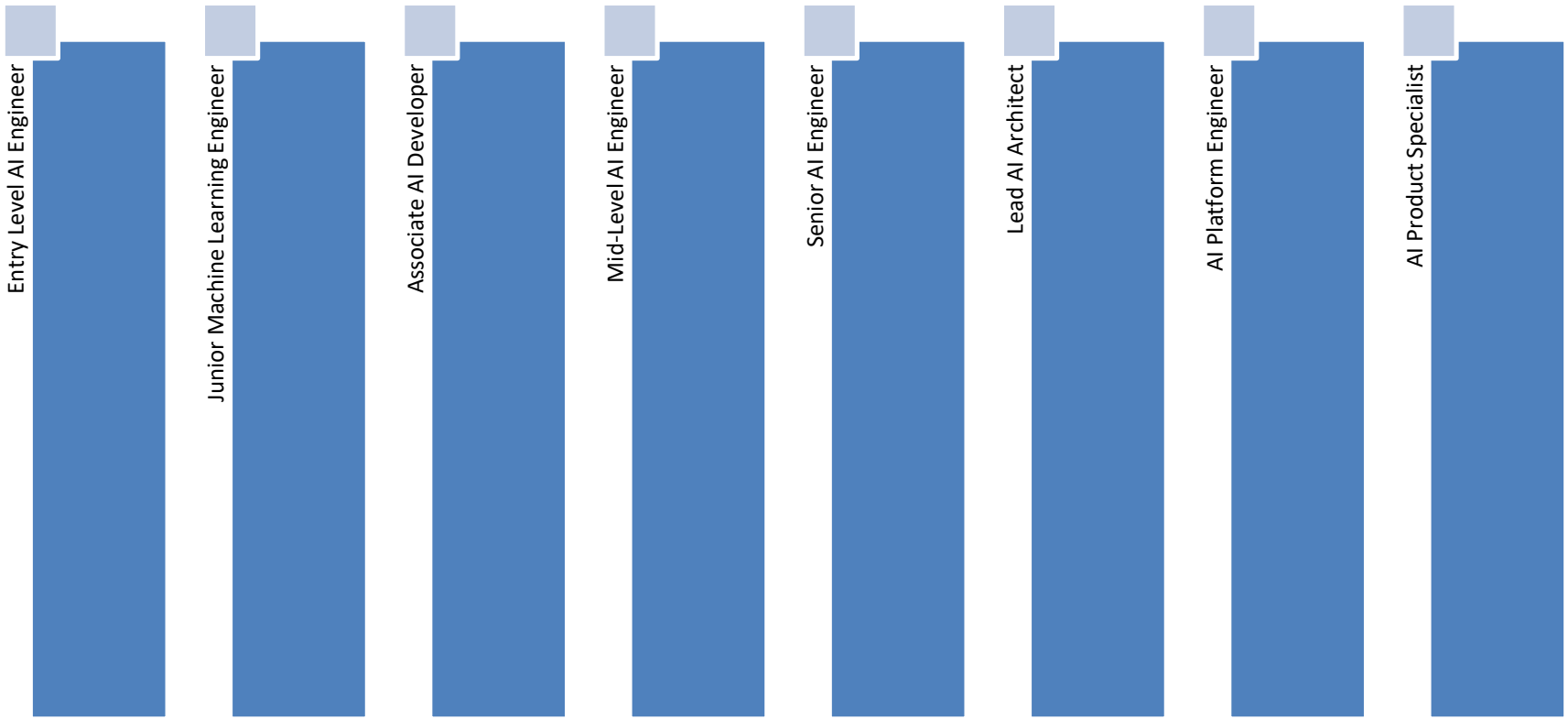
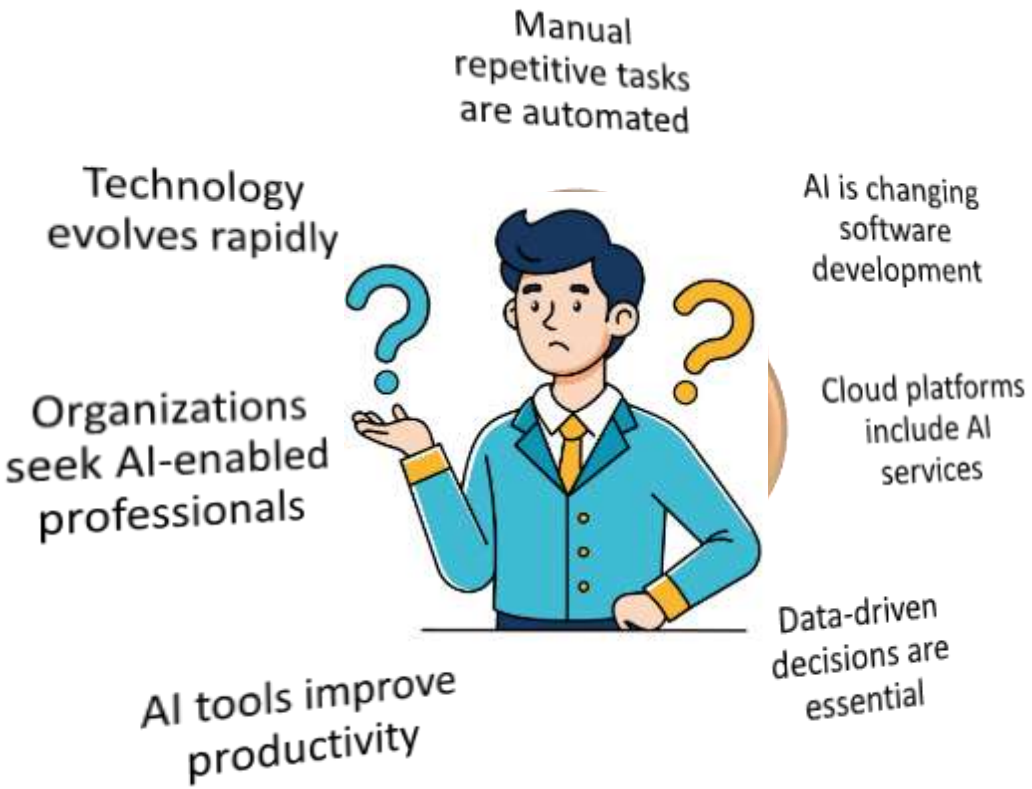
Future AI Job Landscape

- ✓ AI Engineer
- ✓ Machine Learning Engineer
- ✓ Generative AI Developer
- ✓ AI Automation Engineer
- ✓ Prompt Engineer
- ✓ Cloud AI Associate
- ✓ MLOps Engineer
- ✓ Agentic AI Developer

Salary Growth Roadmap



Why Traditional Skills Are Not Enough



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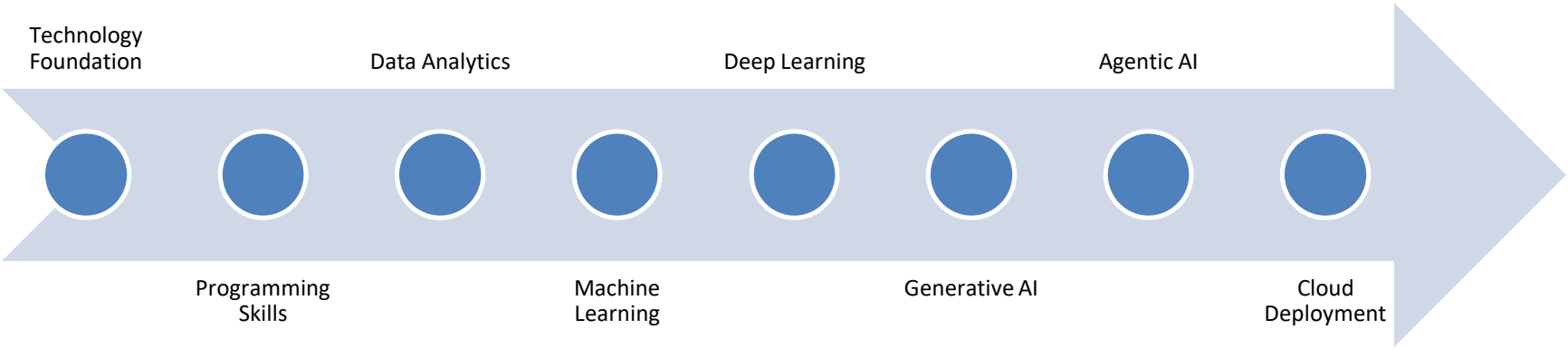
Beginner to AI Engineer Journey



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Program Highlights

- 12 Week Structured Learning Plan
- 10+ Portfolio Projects
- Hands-on Labs Every Week
- Career Guidance Sessions
- AWS Cloud Learning Included
- AI, ML, Generative AI & Agent
- Capstone Project Prepration & Demo

Program Objectives

1. Build strong programming foundations
2. Learn data analytics and visualization
3. Develop machine learning models
4. Understand deep learning concepts
5. Create Generative AI applications
6. Build AI agents and assistants
7. Deploy applications to cloud
8. Learn MLOps best practices

Learning Outcomes

- Write professional Python code
- Analyze and visualize datasets
- Build machine learning solutions
- Develop GenAI applications
- Create AI assistants
- Automate workflows with AI
- Deploy cloud-native solutions
- Build a strong technical portfolio

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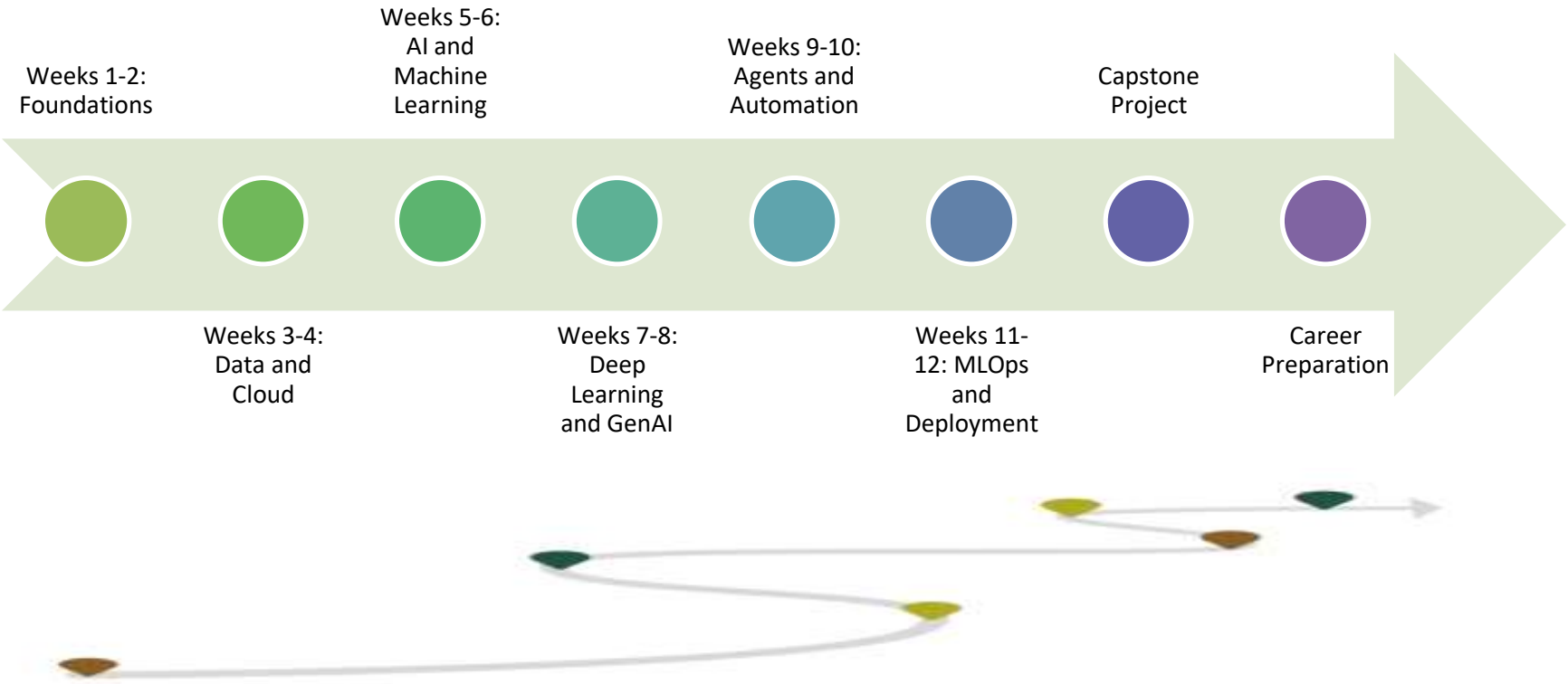
Program Roadmap



Training Methodology

- Instructor-Led Sessions
- Hands-on Demonstrations
- Practical Labs
- Assignments
- Mini Projects
- Capstone Project
- Mentorship Sessions
- Career Guidance

Weekend Learning Model

- Weekend-focused schedule
- Ideal for career/working professionals
- Recorded videos available
- Flexible learning approach
- Hands-on practical sessions
- Regular assignments
- Project-based learning

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Learning Framework

- 20% Theory
- 30% Guided Labs
- 30% Project Work
- 10% Career Preparation
- 10% Assessments
- Continuous Learning Cycle
- Industry-Relevant Training
- Outcome-Based Learning

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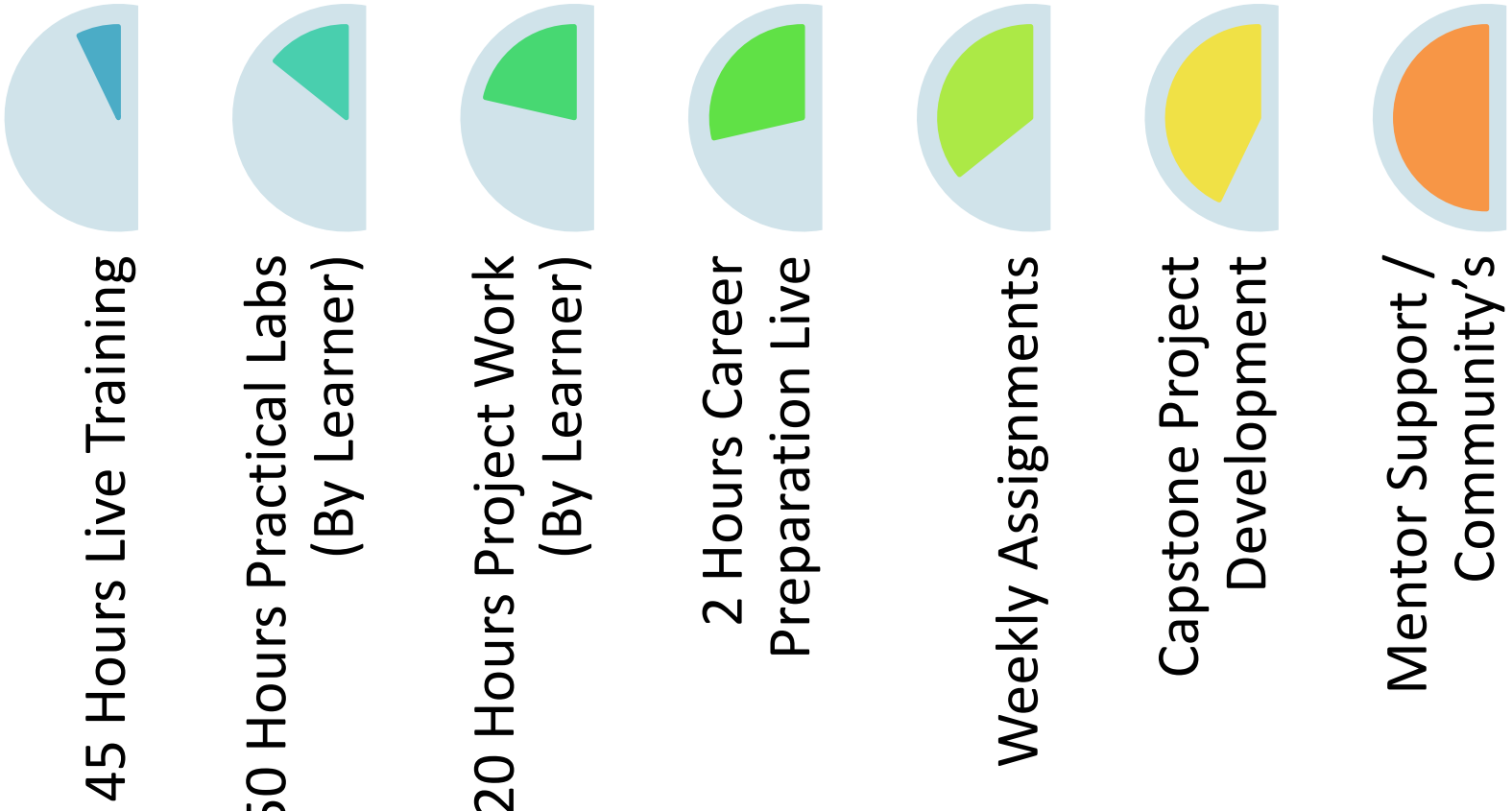
Training Hours Distribution



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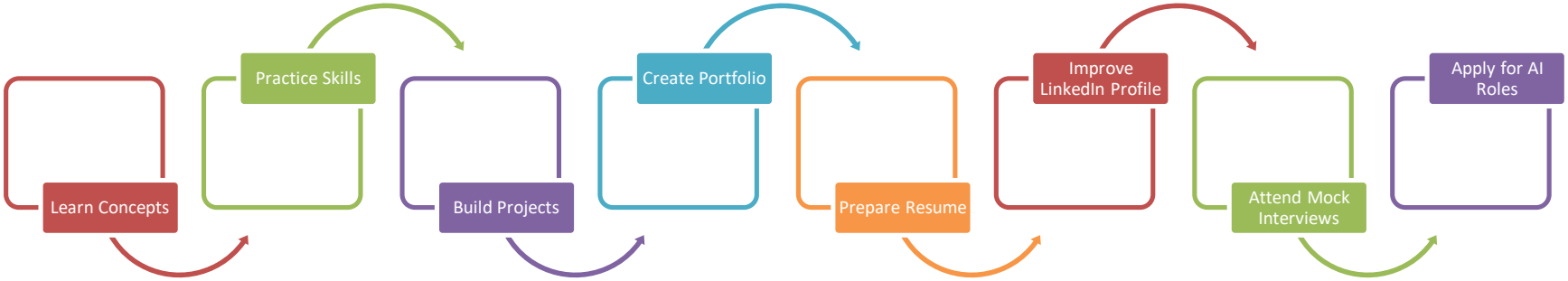
Assessment Framework

- Weekly Assignments
- Hands-on Lab Exercises
- Mini Project Reviews
- Code Quality Evaluation
- Technical Demonstrations
- Capstone Assessment
- Project Presentations
- Portfolio Evaluation

Student Success Framework



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Technology Ecosystem Overview

Python Programming

Linux Fundamentals

Git and GitHub

SQL Databases

AWS Cloud

Machine Learning

Generative AI

MLOps and Automation

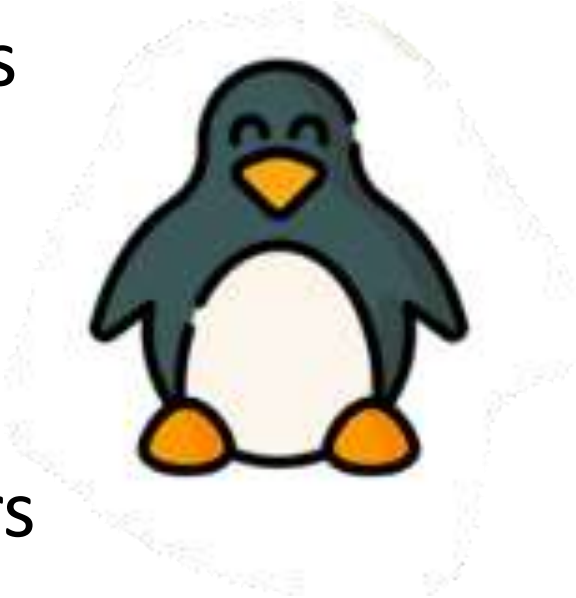
Technology Foundation

AI Engineer Career Roadmap

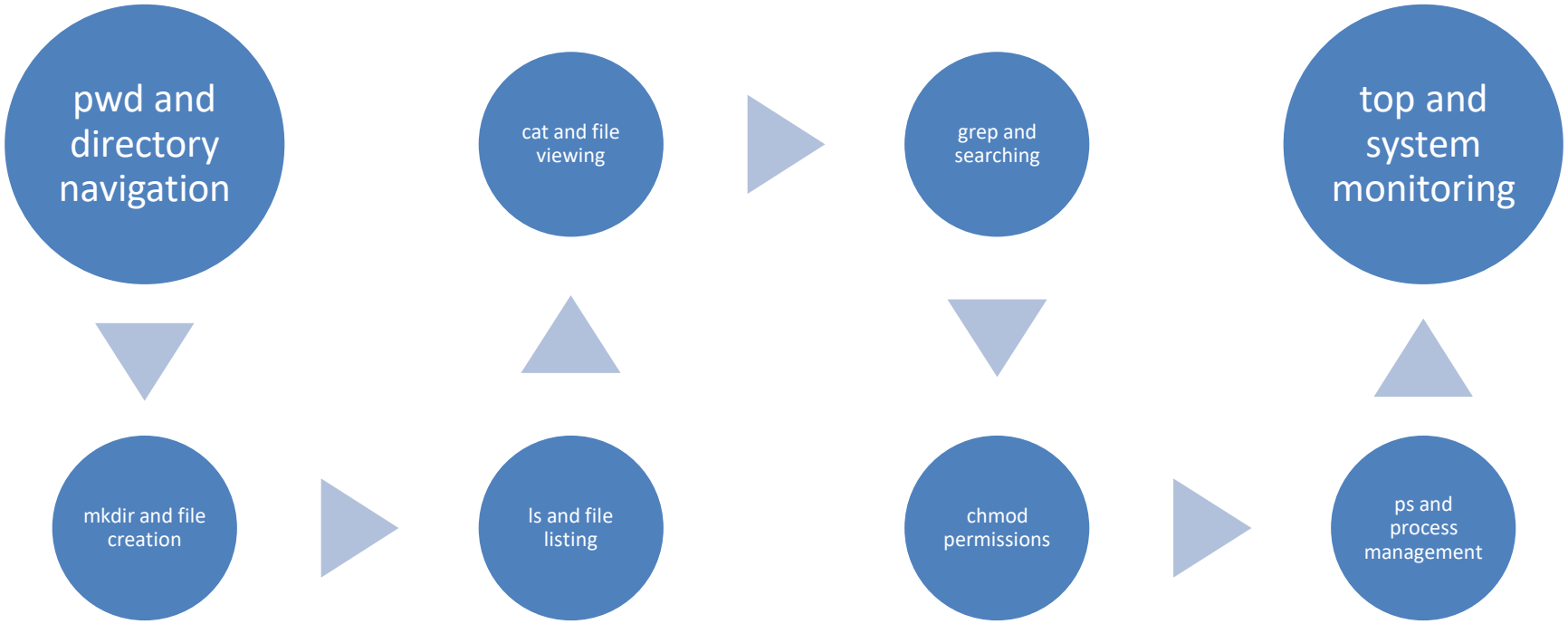
- Understanding AI Engineer Responsibilities
- Difference Between AI Engineer and Data Scientist
- Difference Between AI Engineer and ML Engineer
- Required Technical Skills
- Cloud AI Engineer Roadmap
- Generative AI Career Path
- Agentic AI Career Opportunities
- Building a Continuous Learning Plan

Linux Fundamentals

- Why Linux Dominates Cloud Computing
- Linux File System Structure
- Working with Directories
- Managing Files and Permissions
- Understanding Processes
- Package Management Basics
- Shell Scripting Introduction
- Linux for AI and Cloud Engineers



Linux Hands-On Labs



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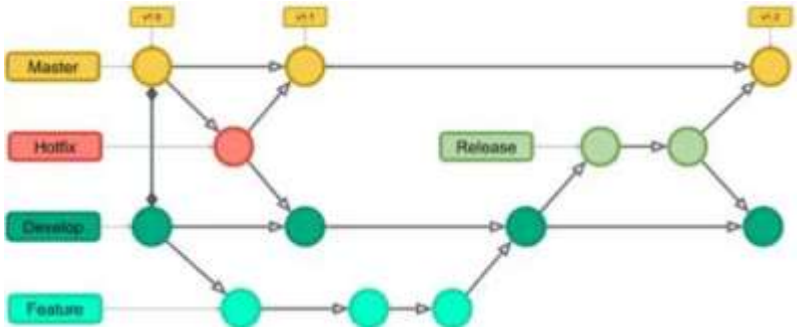
Git and Version Control

- Introduction to Version Control Systems
- Why Git is Industry Standard
- Repositories and Commits
- Branching Strategies
- Merge and Conflict Resolution
- Collaboration Using GitHub
- Code Review Process
- Git for AI Projects



GitHub Practical Workshop

- Creating Repositories
- Working with Branches
- Pull Requests
- Managing Issues
- GitHub Actions Introduction
- Project Documentation
- Collaboration Workflow
- Portfolio Repository Setup

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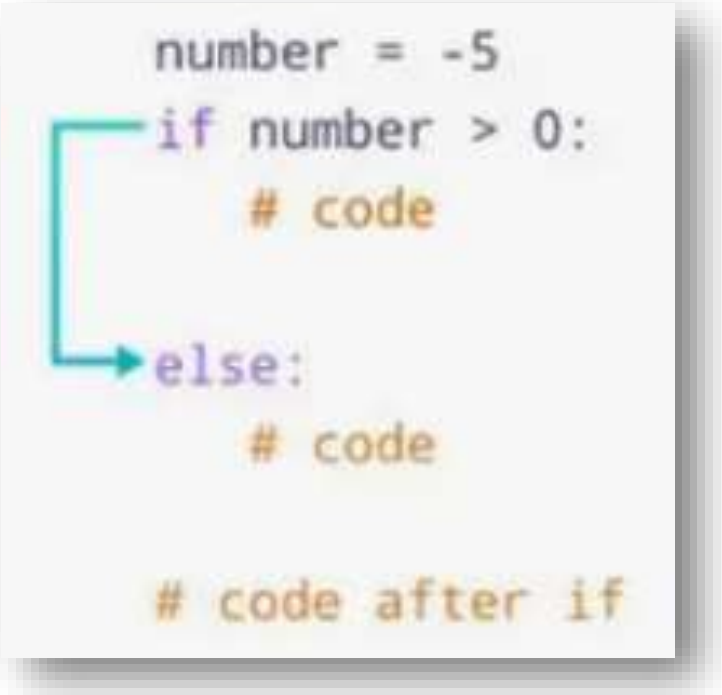
Python Programming Introduction

- Why Python for AI
- Installing Python Environment
- Understanding Variables
- Data Types
- Input and Output
- Operators and Expressions
- Writing First Python Programs
- Python Development Tools

python™

Python Control Structures

- Conditional Statements
- if else logic
- Loops and Iterations
- For Loops
- While Loops
- Nested Loops
- Break and Continue
- Problem Solving with Loops



Functions and Modular Programming

- Creating Functions
- Function Parameters
- Return Values
- Reusable Code Design
- Scope and Variables
- Lambda Functions
- Code Organization
- Best Practices

Python Data Structures

- Lists
- Tuples
- Dictionaries
- Sets
- List Comprehensions
- Nested Data Structures
- Data Manipulation
- Real World Examples

Advanced Python Concepts

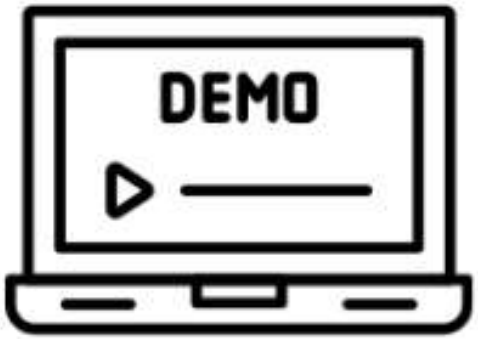
- Exception Handling
- File Handling
- Working with CSV Files
- JSON Processing
- Modules and Packages
- Python Libraries
- Debugging Techniques
- Writing Maintainable Code

Object Oriented Programming

- Classes and Objects
- Constructors
- Methods
- Encapsulation
- Inheritance
- Polymorphism
- Abstraction
- Real World Modeling

Mini Project - Student Management System

- Design Student Records
- Store Student Data
- Search Students
- Update Records
- Delete Records
- Apply OOP Concepts
- File Storage Integration
- Project Demonstration



Student have to prepred and demo or share GitHub link.

Fundamentals

- Introduction to Numerical Computing
- Arrays and Matrices
- Vector Operations
- Mathematical Functions
- Array Manipulation
- Broadcasting
- Performance Benefits
- Scientific Computing Basics

Pandas for Data Analytics

- DataFrames and Series
- Reading CSV Files
- Data Cleaning
- Handling Missing Values
- Filtering Data
- Grouping and Aggregation
- Data Transformation
- Real World Data Processing

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Data Visualization

- Importance of Visualization
- Matplotlib Basics
- Seaborn Introduction
- Bar Charts
- Line Charts
- Pie Charts
- Histograms
- Dashboard Thinking

Data Analytics Project

- Sales Dataset Analysis
- Customer Trend Analysis
- Revenue Insights
- Data Cleaning Workflow
- Visualization Creation
- Business Recommendations
- Report Generation
- Project Presentation

Student have to prepred and demo or share GitHub link.

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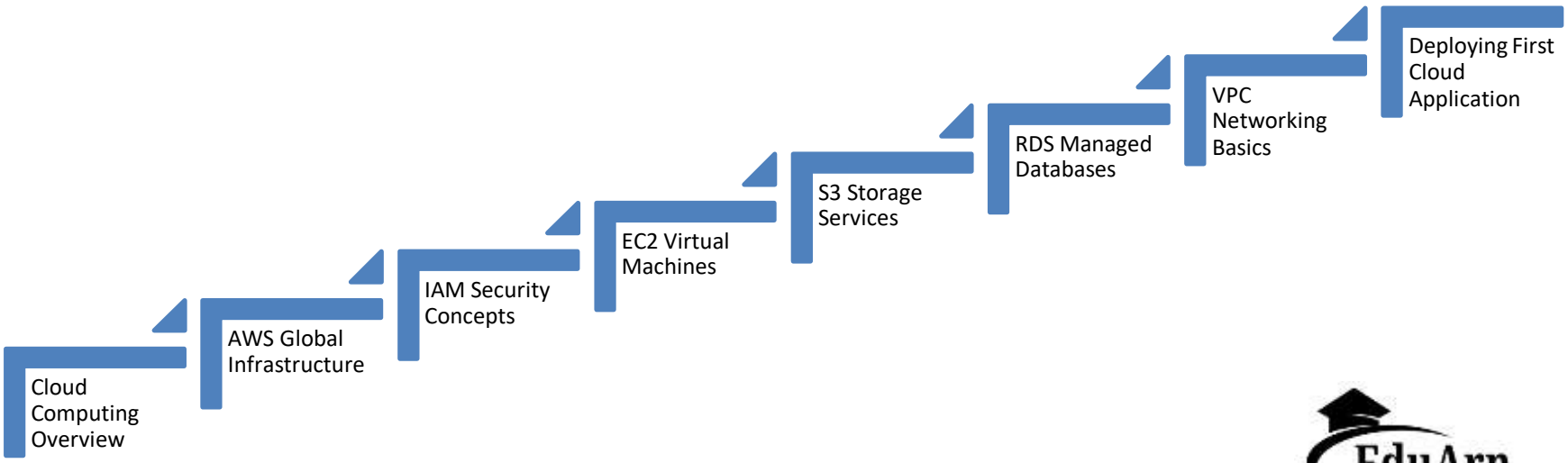
SQL Fundamentals

- Database Concepts
- Tables and Relationships
- Primary Keys
- Foreign Keys
- Normalization Basics
- SQL Architecture
- RDBMS Overview
- Database Design Principles

SQL Query Development

- SELECT Statements
- INSERT Operations
- UPDATE Records
- DELETE Operations
- WHERE Conditions
- ORDER BY
- GROUP BY
- Aggregate Functions

Cloud Foundation



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^ rtificial Intelligence Fundamentals

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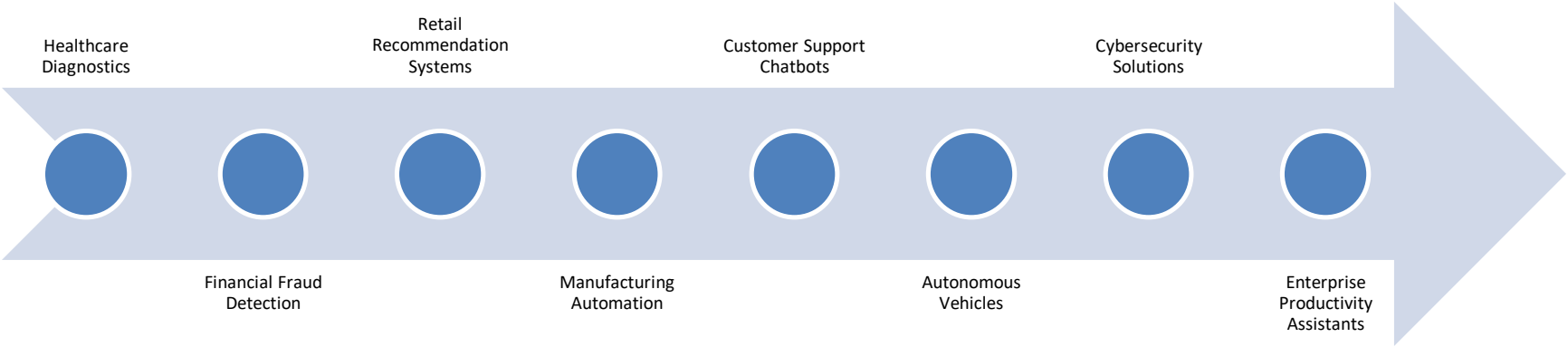
AI Applications Across Industries



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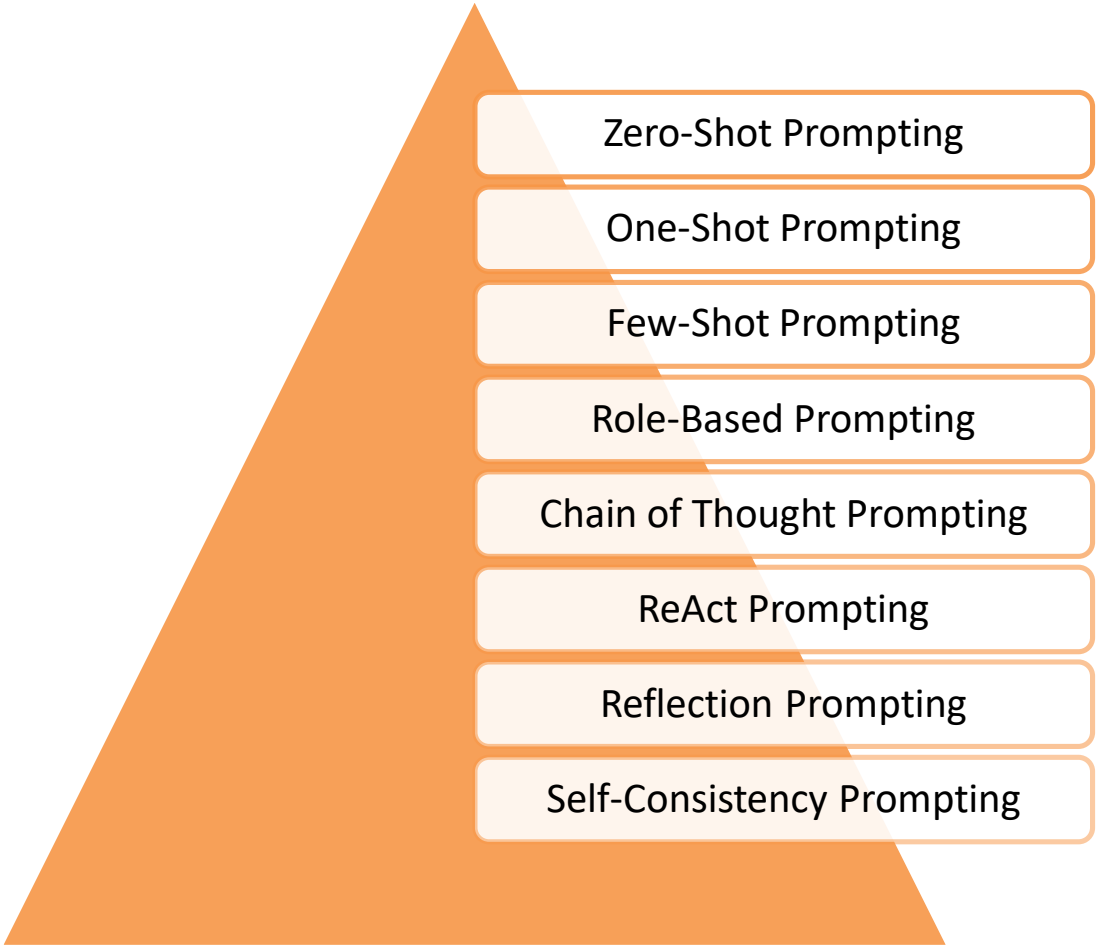
Prompt Engineering

Introduction to Prompt Engineering

- What is Prompt Engineering
- How LLMs Interpret Instructions
- Importance of Context
- Prompt Structure Fundamentals
- Role and Task Definition
- Output Formatting
- Prompt Optimization
- Prompt Engineering Career Opportunities

Prompt Engineering Techniques



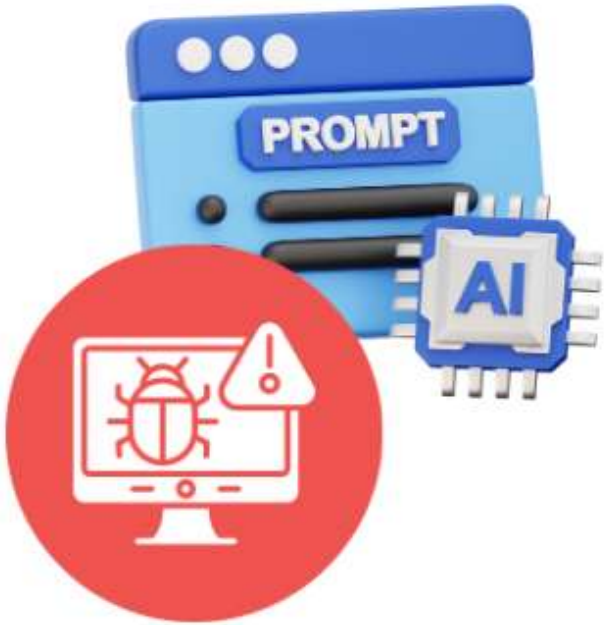
Enterprise Prompt Engineering

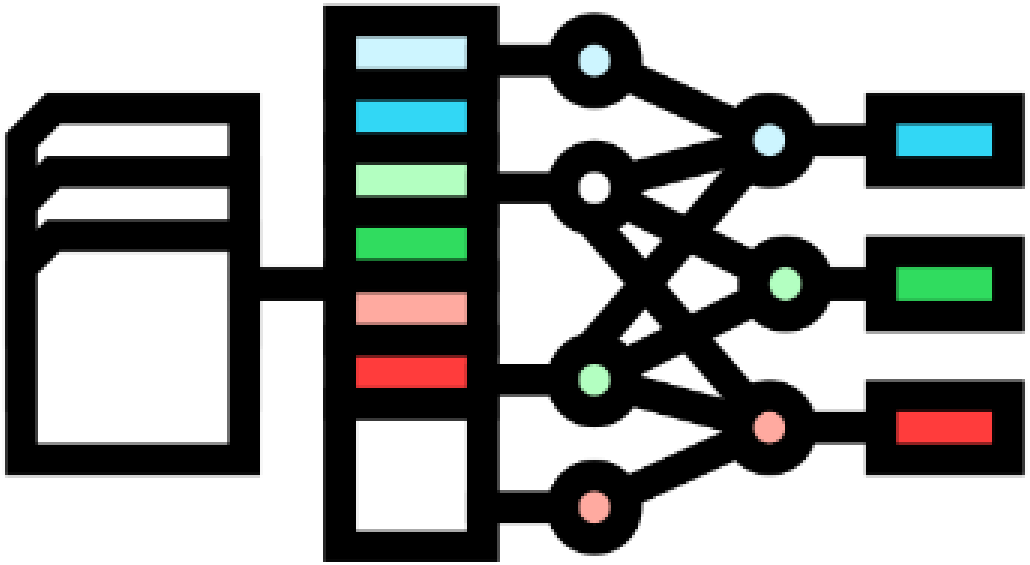
Business Use Cases

- HR Automation Prompts
- Sales Assistant Prompts
- Marketing Content Generation
- Customer Support Automation
- Code Generation Prompts
- Documentation Creation
- Executive Reporting

Prompt Security and Governance

- Prompt Injection Attacks
- Jailbreak Attempts
- Sensitive Data Protection
- Hallucination Management
- Responsible AI Practices
- AI Safety Principles
- Enterprise Guardrails
- Secure Prompt Design





Machine Learning

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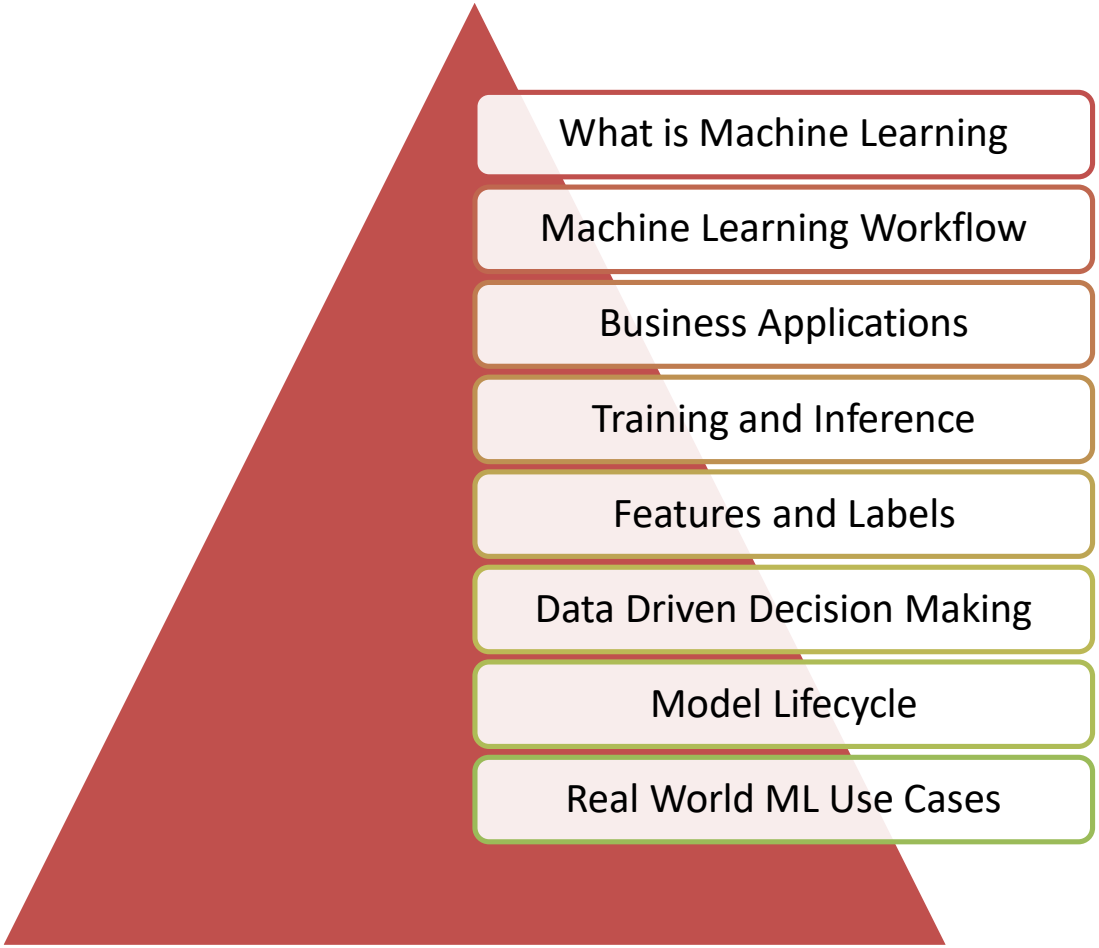
Introduction to Machine Learning



Types of Machine Learning

- Supervised Learning
- Unsupervised Learning
- Semi-Supervised Learning
- Reinforcement Learning
- Regression Problems
- Classification Problems
- Clustering Problems
- Recommendation Systems

Regression Algorithms

- Linear Regression
- Multiple Linear Regression
- Polynomial Regression
- Ridge Regression
- Lasso Regression
- Prediction Problems
- Model Accuracy
- Business Forecasting

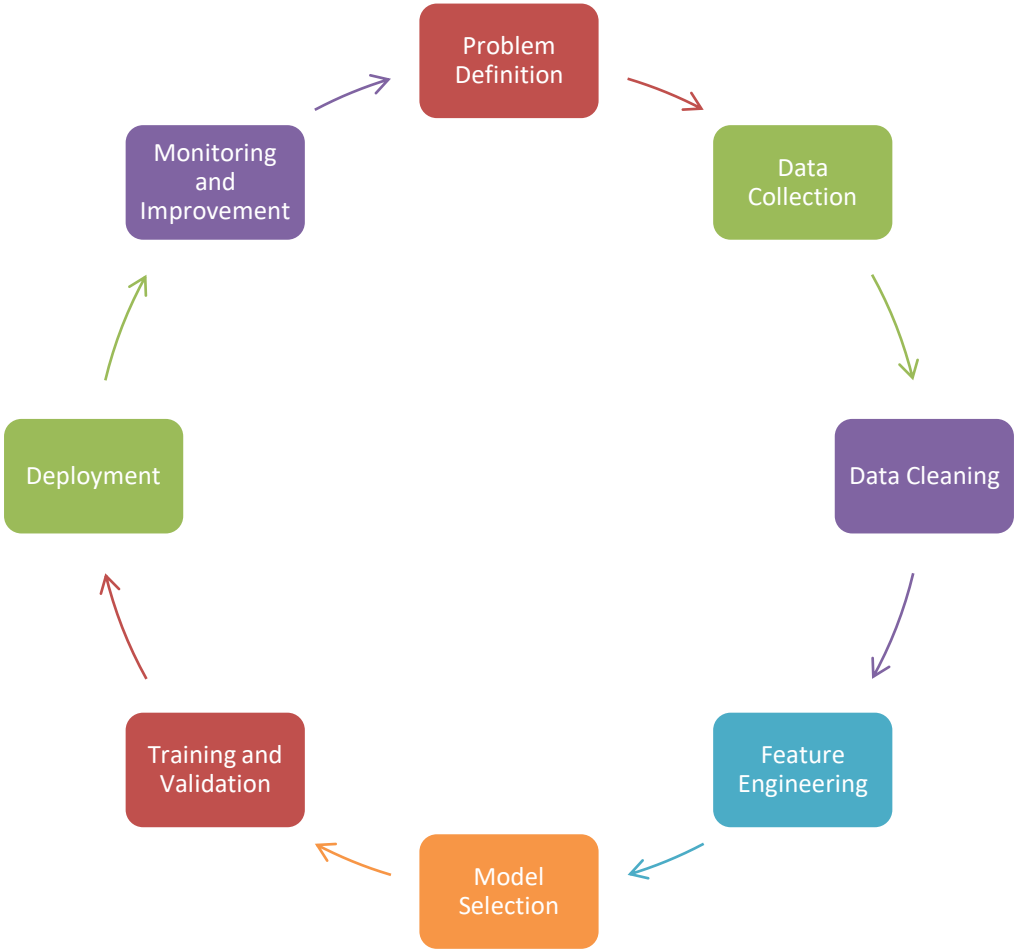
Classification Algorithms

- Logistic Regression
- Decision Trees
- Random Forest
- Support Vector Machines
- K Nearest Neighbor
- Naive Bayes
- Binary Classification
- Multi-Class Classification

Clustering and Unsupervised Learning

- K-Means Clustering
- Hierarchical Clustering
- DBSCAN
- Customer Segmentation
- Behavior Analysis
- Pattern Discovery
- Anomaly Detection
- Market Analysis

Machine Learning Lifecycle

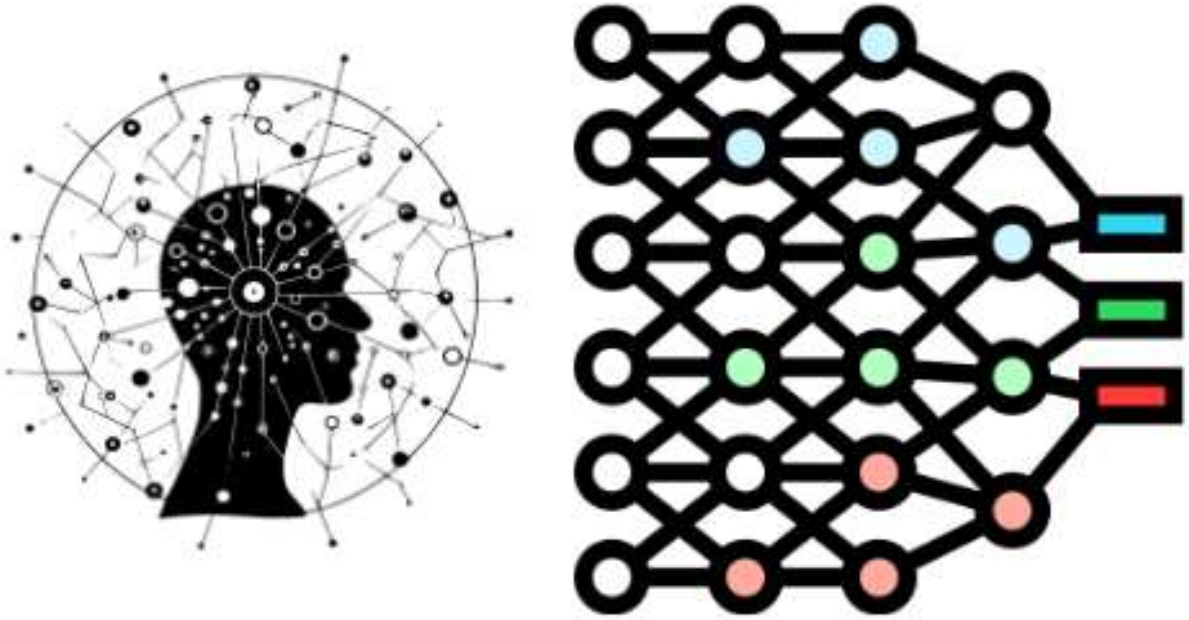


Machine Learning with Scikit-Learn

- Introduction to Scikit-Learn
- Dataset Preparation
- Train Test Split
- Model Training
- Model Evaluation
- Accuracy Metrics
- Prediction Workflow
- Hands-On Implementation

Machine Learning Project

- ✓ House Price Prediction
- ✓ Data Preparation
- ✓ Feature Selection
- ✓ Model Building
- ✓ Training and Testing
- ✓ Accuracy Evaluation
- ✓ Prediction Dashboard
- ✓ Project Demonstration



Deep Learning

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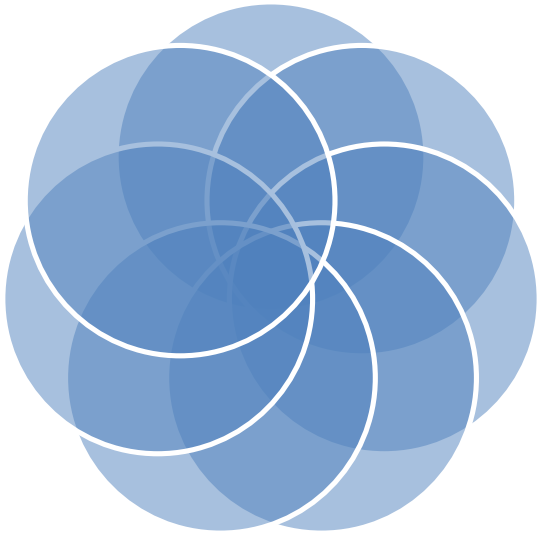
Introduction to Deep Learning



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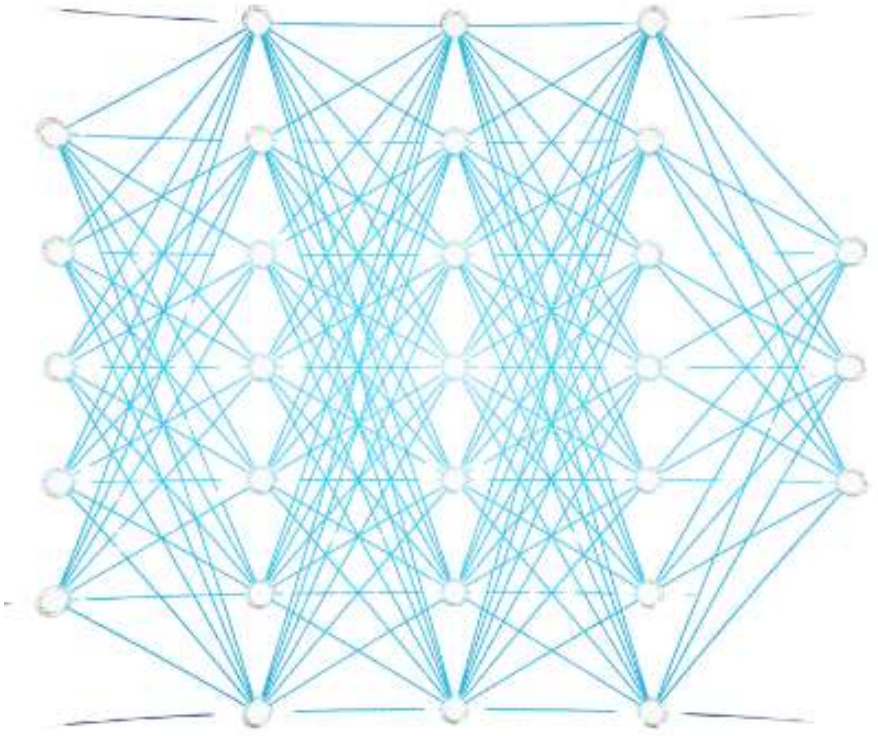
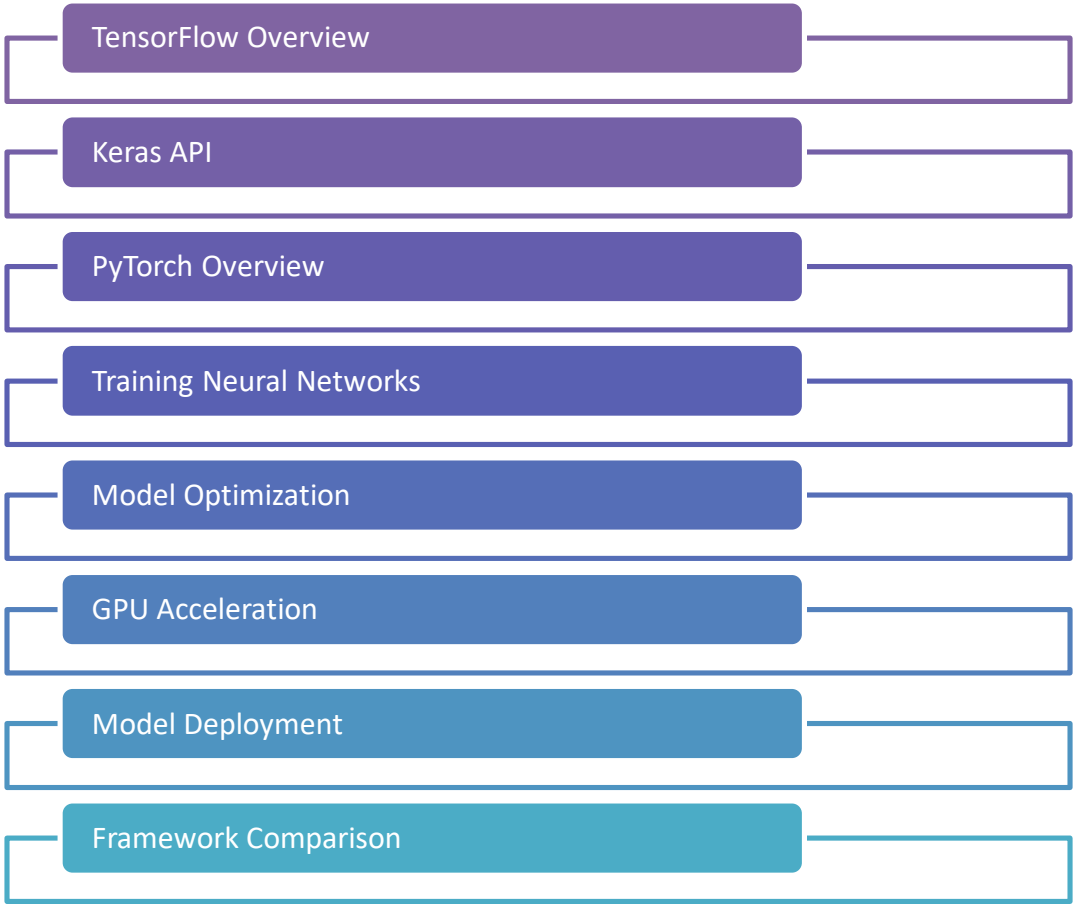
Neural Network Architecture

- Artificial Neurons
- Input Layer
- Hidden Layers
- Output Layer
- Weights and Biases
- Activation Functions
- Forward Propagation
- Back Propagation



Deep Learning Frameworks



Computer Vision with CNN

- Introduction to CNN
- Image Processing Fundamentals
- Convolution Layers
- Pooling Layers
- Feature Extraction
- Object Detection
- Face Recognition
- Image Classification Project

Transformers and LLM Foundations

- Limitations of Traditional Networks
- Attention Mechanism
- Self Attention
- Transformer Architecture
- Encoder Decoder Models
- Tokenization
- Embeddings
- Context Windows

Large Language Models and Hugging Face

- What are LLMs
- GPT Family Models
- Llama Models
- Mistral Models
- Hugging Face Ecosystem
- Model Hub
- Inference Pipelines
- Working with Pretrained Models

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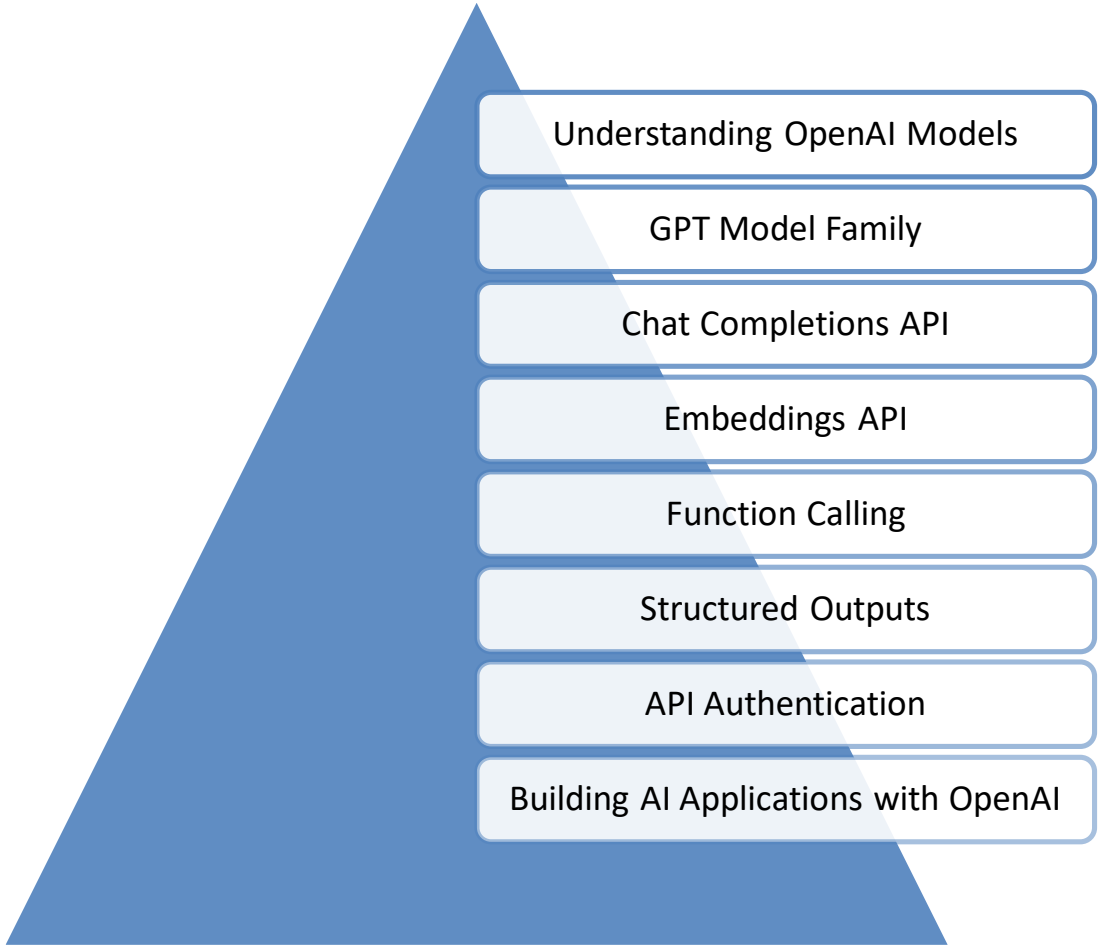
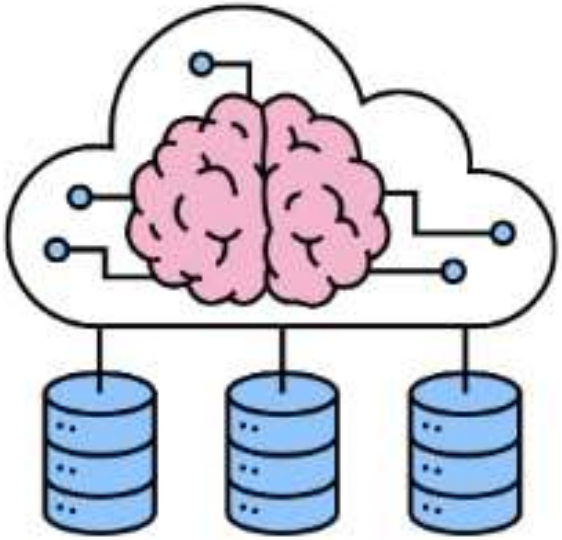
Generative AI Fundamentals

OpenAI Ecosystem and APIs



Retrieval Augmented Generation (RAG)

- What is RAG
- Document Loading
- Chunking Strategies
- Embedding Generation
- Vector Database Storage
- Retrieval Mechanisms
- Context Injection
- Reducing Hallucinations



Vector Databases

Vector Databases

- Introduction to Vector Search
- FAISS Fundamentals
- ChromaDB Overview
- Pinecone Overview
- OpenSearch Vector Search
- Embedding Similarity Search
- Knowledge Base Creation
- Enterprise Search Applications

LangChain Fundamentals

LangChain Fundamentals

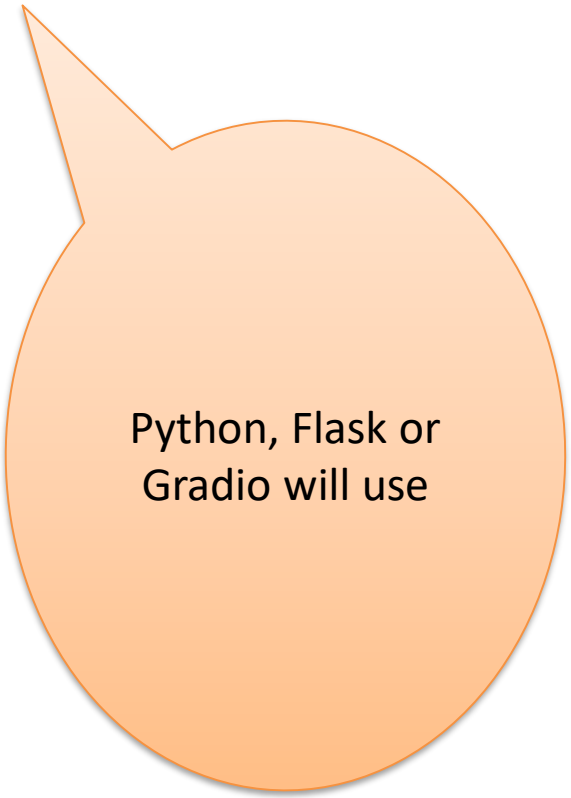
- Introduction to LangChain
- Chains and Workflows
- Prompt Templates
- Output Parsers
- Document Loaders
- Memory Components
- Tool Integration
- Enterprise AI Workflows

Building AI Chatbots with LangChain

- Chatbot Architecture
- Conversation Memory
- Prompt Engineering Integration
- Document Question Answering
- RAG Chatbot Design
- Knowledge Base Integration
- User Interaction Flow
- Deployment Considerations

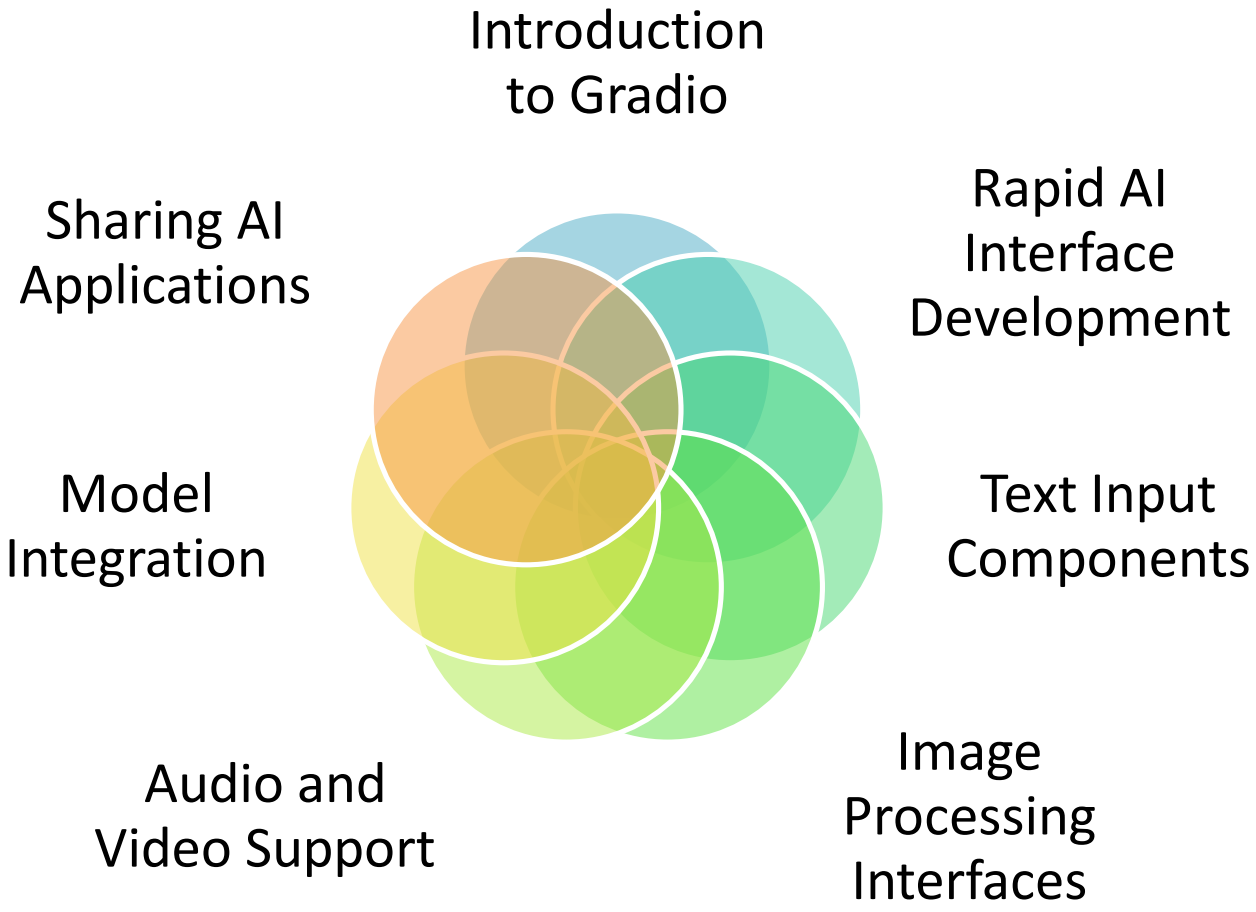
Streamlit for AI Applications

- Introduction to Streamlit
- Building Web Interfaces
- Creating Input Forms
- Displaying AI Responses
- Interactive Dashboards
- Visualization Integration
- Deploying Streamlit Apps
- AI Demo Applications



Build machine learning apps in Python

Gradio for AI Applications



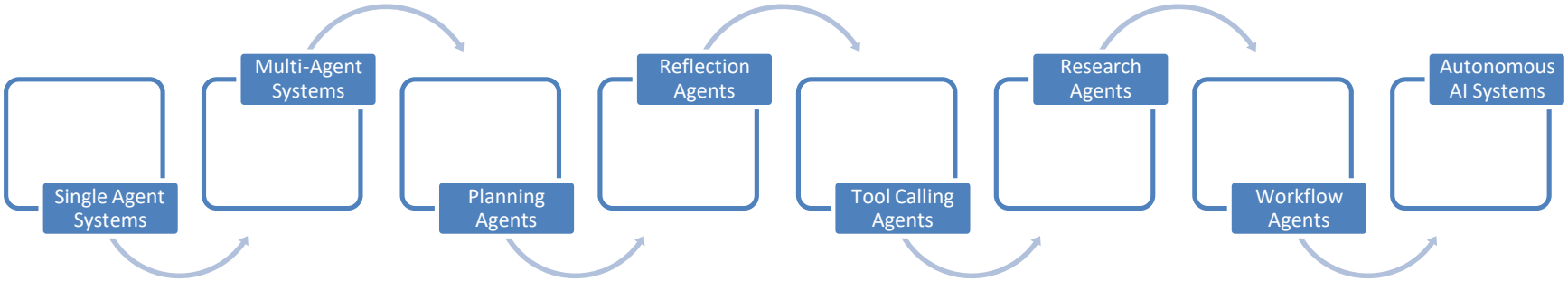
Generative AI Application Project

- AI Content Generator
- Document Summarizer
- AI Resume Analyzer
- Knowledge Assistant
- Question Answering System
- Prompt Optimization
- User Interface Development
- Project Presentation

Introduction to Agentic AI

- What is Agentic AI
- Agents vs Traditional Chatbots
- Reasoning Capabilities
- Planning and Decision Making
- Goal Oriented Execution
- Autonomous Task Completion
- Enterprise Use Cases
- Future of AI Agents

Agent Design Patterns



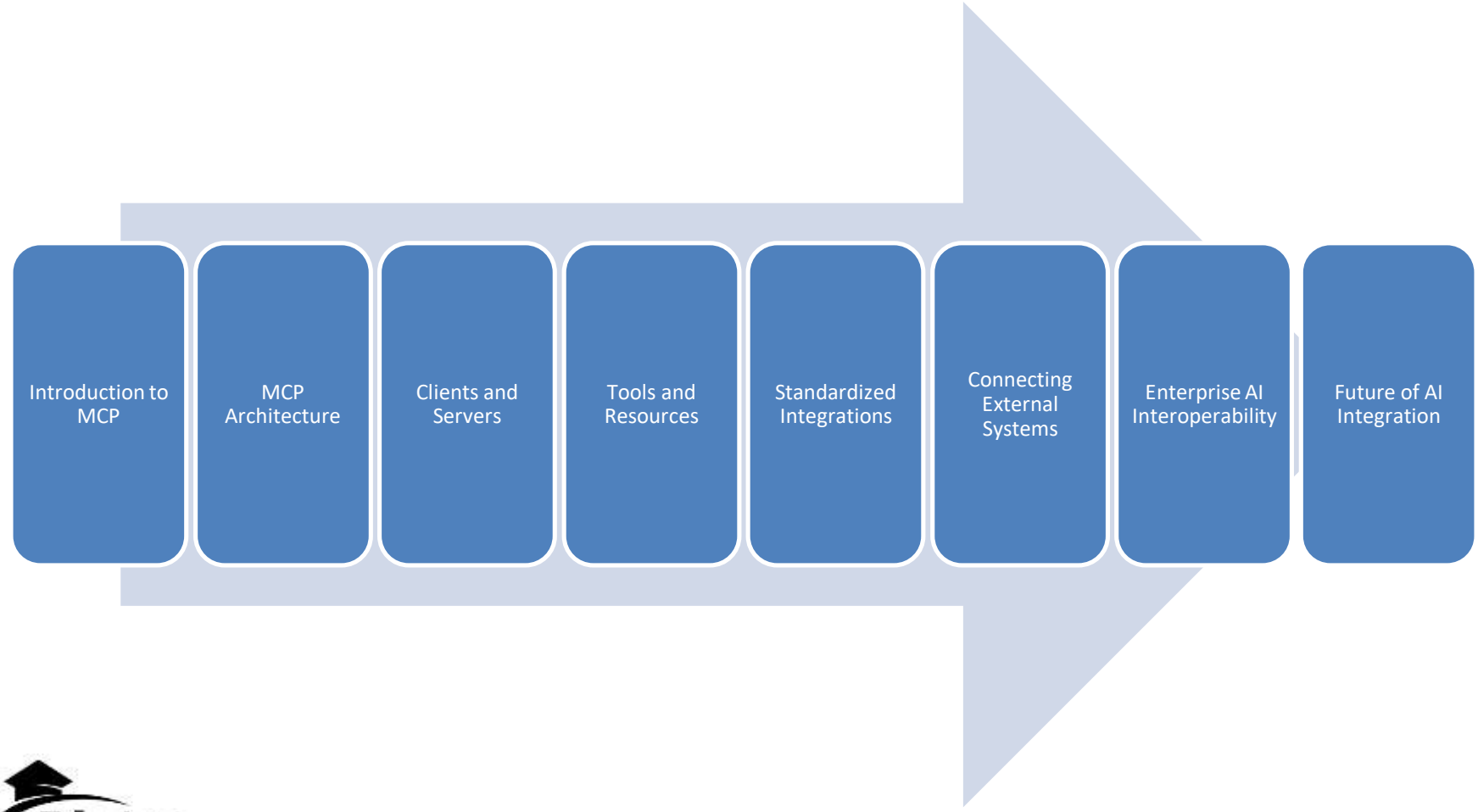
LangGraph Fundamentals

- Introduction to LangGraph
- State Management
- Nodes and Edges
- Workflow Design
- Conditional Routing
- Agent Orchestration
- Multi-Step Reasoning
- Production AI Workflows

Building AI Research Agents

- Research Planning
- Information Gathering
- Tool Integration
- Data Processing
- Report Generation
- Agent Memory
- Reasoning Chains
- Project Demonstration

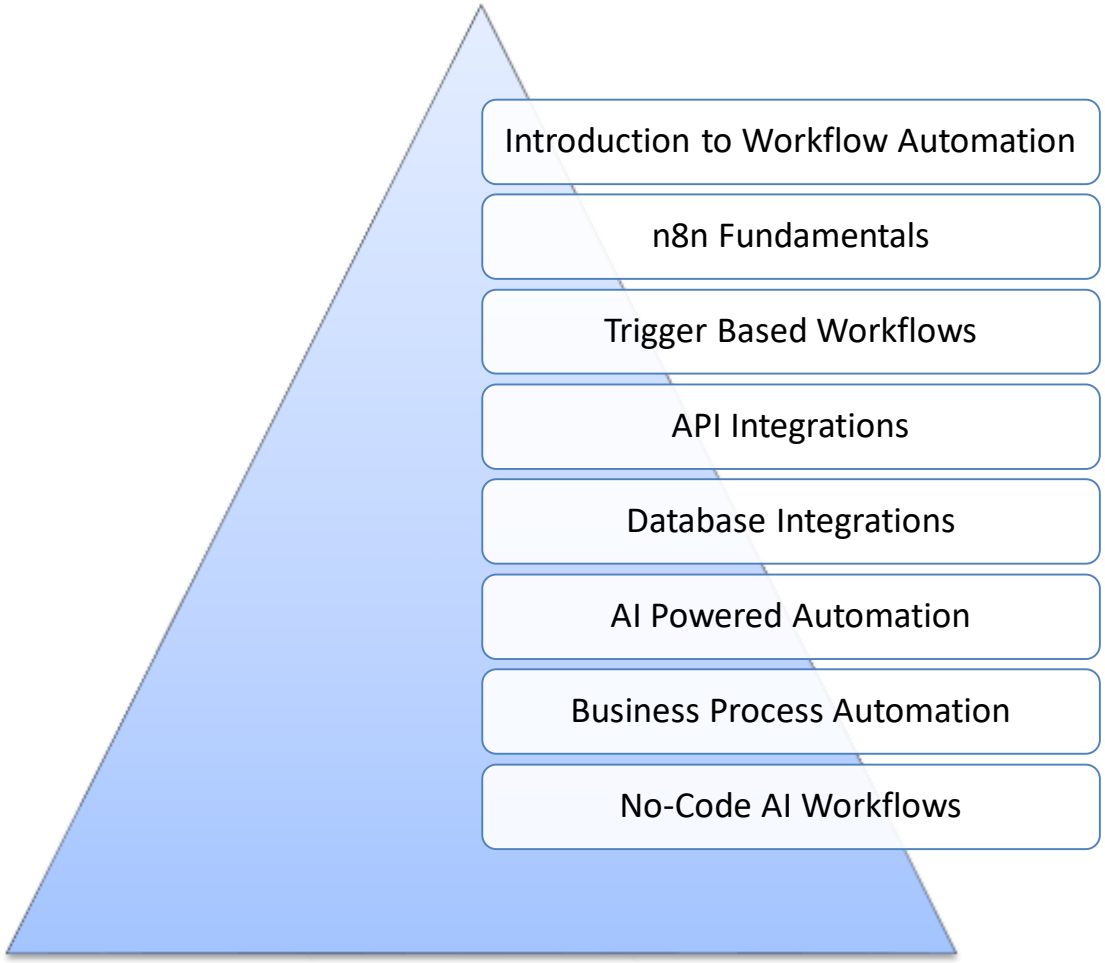
Model Context Protocol (MCP)



Building MCP Enabled Applications

- Creating MCP Servers
- Tool Registration
- Resource Exposure
- External API Integration
- Database Connectivity
- Enterprise Use Cases
- Testing MCP Workflows
- Production Considerations

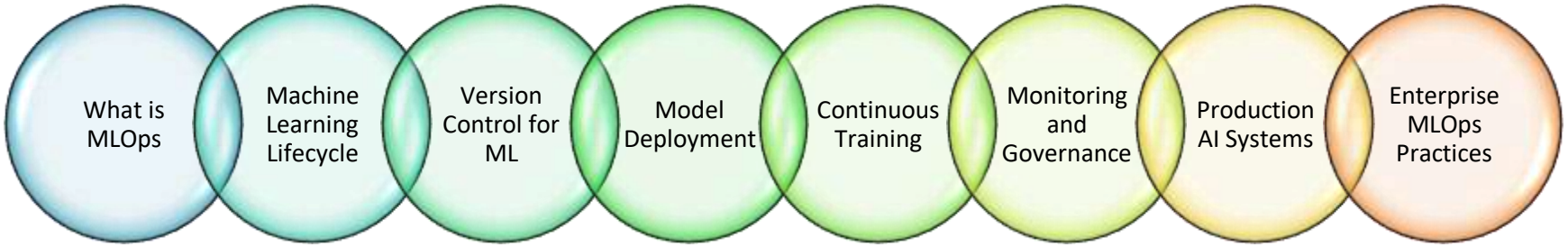
AI Automation with n8n



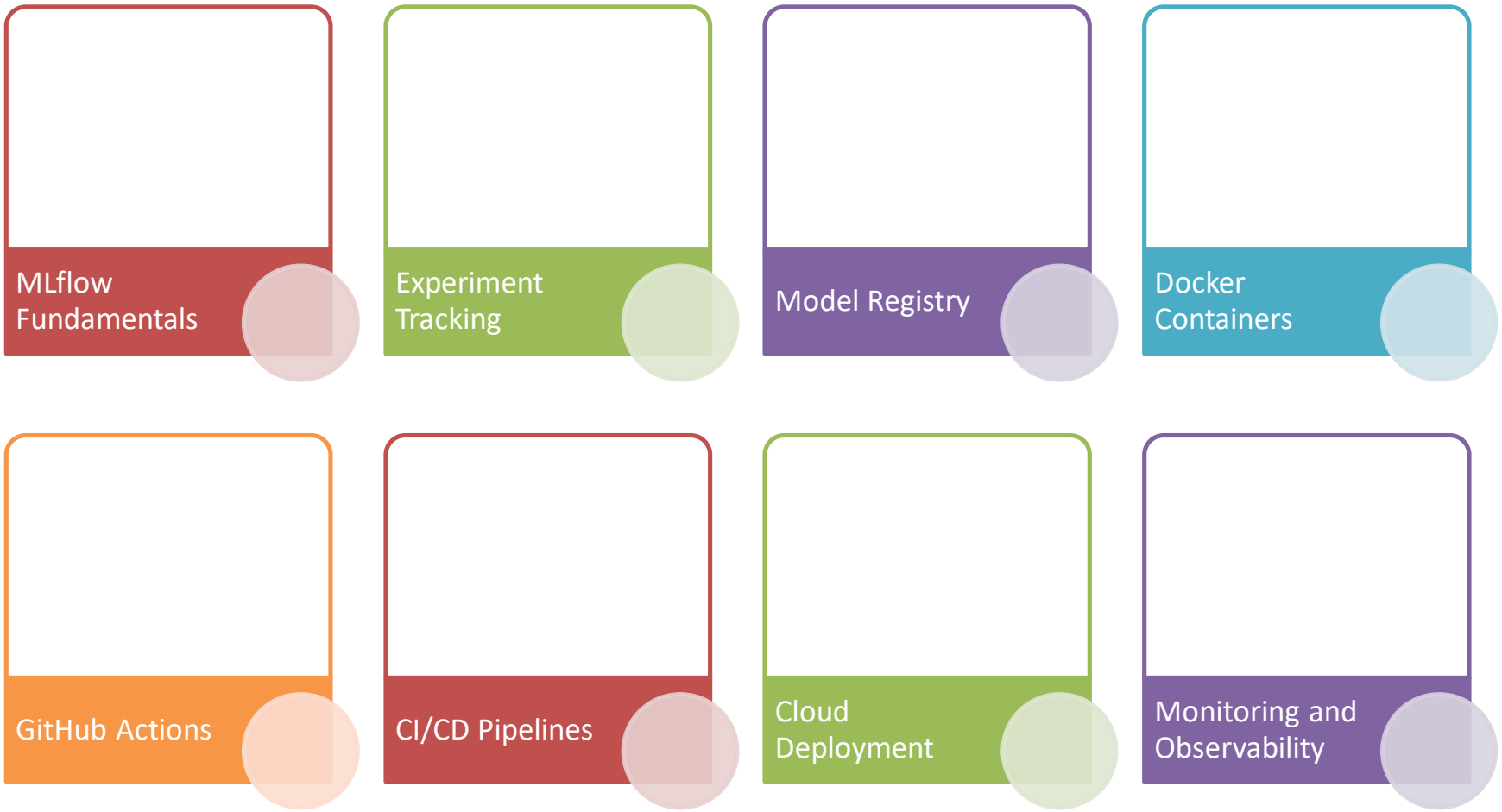
Enterprise AI Automation

- Customer Support Automation
- Email Processing
- Document Processing
- Lead Qualification
- Notification Systems
- Workflow Orchestration
- Business Intelligence Integration
- Automation Best Practices

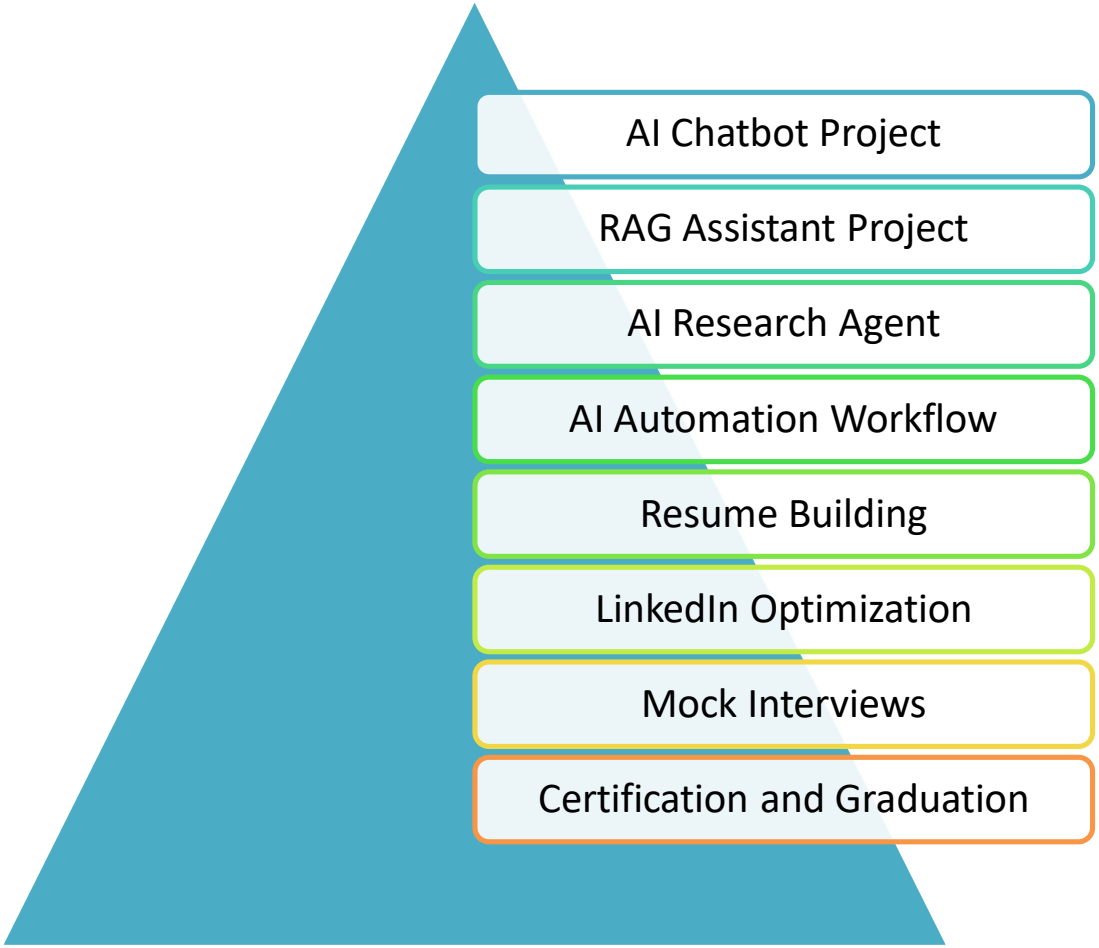
Introduction to MLOps



MLOps Tools and Deployment



Capstone Project and Career Preparation



90-Day Content Creation Challenge (Optional)

Goal
Build your personal brand and consistency by publishing content every day for 90 days.

Daily Action Plan
Day 1–30: Share what you learn.
Day 31–60: Share your experiences and insights.
Day 61–90: Share case studies, results, and lessons learned.

Content Options
Write a LinkedIn newsletter.
Create a YouTube video.
Publish a Google Blog post.
Repurpose one piece of content across all platforms.

Challenge Rules

- Post consistently every day.
- Focus on value, not perfection.
- Engage with comments and feedback.
- Track your progress weekly.

Expected Results

- ❑ Stronger personal brand.
- ❑ Improved communication skills.
- ❑ Increased audience growth.
- ❑ Better content creation habits.

90 Days. 90 Pieces of Content. One Stronger You.

EduArn

THANK YOU

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