AI+ Architect ™

Duration: 40 hrs

Course Overview

The AI+ Architect certification offers comprehensive training in advanced neural network techniques and architectures. It covers the fundamentals of neural networks, optimization strategies, and specialized architectures for natural language processing (NLP) and computer vision. Participants will learn about model evaluation, performance metrics, and the infrastructure required for AI deployment. The course emphasizes ethical considerations and responsible AI design, alongside exploring cutting-edge generative AI models and research-based AI design methodologies. A capstone project and course review consolidate learning, ensuring participants can apply their skills effectively in real-world scenarios. This certification equips learners with the knowledge and practical experience to excel in AI architecture and development.

Course Prerequisites

- A foundational knowledge on neural networks, including their optimization and architecture for applications.
- Ability to evaluate models using various performance metrics to ensure accuracy and reliability.
- Willingness to know about AI infrastructure and deployment processes to implement and maintain AI systems effectively

Course Agenda

Module 1: Fundamentals of Neural Networks

- Introduction to Neural Networks
- Neural Network Architecture
- Hands-on: Implement a Basic Neural Network

Module 2: Neural Network Optimization

- Hyperparameter Tuning
- Optimization Algorithms
- Regularization Techniques

- Hands-on: Hyperparameter Tuning and Optimization

Module 3: Neural Network Architectures for NLP

- Key NLP Concepts
- NLP-Specific Architectures
- Hands-on: Implementing an NLP Model

Module 4: Neural Network Architectures for Computer Vision

- Key Computer Vision Concepts
- Computer Vision-Specific Architecture
- Hands-on: Building a Computer Vision Model

Module 5: Model Evaluation and Performance Metrics

- Model Evaluation Techniques
- Improving Model Performance
- Hands-on: Evaluating and Optimizing AI Model

Module 6: AI Infrastructure and Deployment

- Infrastructure for AI Development
- Deployment strategies
- Hands on: Deploying an AI model

Module 7: AI Ethics and Responsible AI Design

- Ethical Considerations in AI
- Best Practices for Responsible AI Design
- Hands-on: Analyzing Ethical Considerations in AI

Module 8: Generative AI Models

- Overview of Generative AI Models
- Generative AI Applications in Various Domains
- Hands-on: Exploring Generative AI Models

Module 9: Research-Based AI Design

- AI Research Techniques
- Cutting-Edge AI Design
- Hands-on: Analyzing AI Research Papers

Module 10: Capstone Project and Course Review

- Capstone Project Presentation
- Course Review and Future Directions
- Hands-on: Capstone Project Development