Course Name	**: LangChain.js Develop LLM Apps with JavaScript and OpenAI**
Duration	**: 2 Days (Physical Classroom / Virtual Live Instructor)**
Skill Level	**: Beginner**

COURSE DESCRIPTION:

Embark on an exciting journey into the realm of AI-driven chatbots with our two-day course, "Learn LangChain.js - Build LLM apps with JavaScript and OpenAI." Designed for beginners, this comprehensive program starts with a JavaScript crash course, equipping you with the foundational skills needed to dive into LangChain.js development. Led by industry experts and the lead maintainer of LangChain.js, Jacob Lee, you'll explore the intricacies of LangChain, from understanding its core concepts to implementing advanced features like RunnableSequence and StringOutputParser. By the end of the course, you'll be adept at harnessing LangChain's power to construct intelligent chatbots capable of engaging in contextual conversations and answering queries with deep knowledge from provided documents.

Join us and unlock the potential of LangChain.js to revolutionize your AI development skills. Whether you're a budding developer or an IT enthusiast eager to explore the cutting-edge intersection of JavaScript and artificial intelligence, this course offers a dynamic blend of theory and hands-on practice. Build your own Chatbot and embark on a journey that will elevate your understanding of AI-driven applications and propel you into the forefront of innovation in the digital landscape.

WHAT WILL YOU LEARN?

Throughout this two-day course, you'll gain a comprehensive understanding of LangChain.js and its applications in building AI-powered chatbots. Starting with a JavaScript crash course, you'll master the fundamentals necessary to delve into LangChain development, learning about variables, control flow, functions, and DOM manipulation. Guided by industry experts, you'll then explore LangChain's core concepts, including embeddings, Supabase setup, and text manipulation techniques. Through hands-on exercises and projects, you'll discover how to split and vectorize text, implement prompt templates, and construct basic and complex chains using LangChain's powerful methods. By the end of the course, you'll be equipped with the skills to build your own intelligent chatbot capable of engaging in contextual conversations and retrieving information from provided documents.

PREREQUISITE:

Beginners. We cover the JavaScript Fundamentals.

METHODOLOGY:

This program will be conducted with interactive lectures, PowerPoint presentations, discussions, and practical exercises. This course can be conducted as instructor-led (ILT) or virtual instructor-led training (VILT).

JOB SCOPE:

Upon completion of this course, candidates may pursue the following career paths:

- AI Developer
- Chatbot Developer
- AI Consultant
- NLP Engineer

MODULE 1: JAVASCRIPT CRASH COURSE
- Welcome
- Introduction to JavaScript: Basics
- Variables, Data Types, and Operators
- Control Flow: Conditionals and Loops
- Functions and Scope
- Arrays and Objects
- DOM Manipulation: Basics of Interacting with HTML/CSS
- Asynchronous JavaScript: Introduction to Promises

MODULE 2: INTRODUCTION TO LANGCHAIN.JS
- Overview of LangChain.js and Its Applications
- Introduction to Large Language Models
- LLMS and its Applications

MODULE 3: UNDERSTANDING LANGCHAIN CONCEPTS
- App Flow Diagrams: Visualizing the Process
- Explaining Embeddings: The Backbone of LangChain
- Setting up Supabase: Database Configuration for LangChain

MODULE 4: GETTING STARTED WITH LONGCHAIN
- Splitting the Text: Utilizing LangChain TextSplitter
- Vectorizing Text Chunks: Transforming Text into Numerical Representations
- Uploading Data to Supabase: Storing Vectors for Retrieval

MODULE 5: BUILDING THE FOUNDATION
- Providing Starter Code for the Chatbot
- Exploring the Standalone Question: Conceptual Understanding
- Understanding Prompt Templates and their Significance

MODULE 6: CONSTRUCTING BASIC CHAINS
- Adding the First Chain: Implementing .Pipe() Method
- Retrieval from Vector Store: Accessing Information for Responses
- Implementing StringOutputParser for Structured Outputs

MODULE 7: ADVANCING WITH LANGCHAIN
- Serializing Documents: Preparing Data for Processing
- Exploring RunnableSequence: Building Complex Chains
- Harnessing RunnablePassthrough for Advanced Functionality

MODULE 8: CHALLENGES AND SOLUTIONS
- Super Challenge: Implementing RunnableSequence
- Solution Walkthrough for Super Challenge
- Wiring up the User Interface: Connecting Frontend with LangChain Backend

MODULE 9: MEMORY AND PERFORMANCE
- Setting up Memory for LangChain: Managing Conversational Context
- Tackling Performance Issues: Optimization Checklist and Best Practices

MODULE 10: COURSE PROJECT: BUILDING A CHATBOT
- Designing and Developing a Chatbot with LangChain.js
- Leveraging LangChain's Capabilities for Contextual Conversations
- Testing and Iterating on the Chatbot

CONCLUSION
- QA
- Useful References and Books
- Feedback