

Front-end development

This course covers modern frontend web development from HTML, CSS and JavaScript to React, responsive interfaces, animations, practical projects and frontend-focused AI integration.

Duration 6 Months	Training Mode Offline	Certification Industry Certificate	Practical Labs 100% Hands-on
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Tools & Tech: HTML5 • CSS3 • Bootstrap 5 • JavaScript ES6+ • React.js • Redux • GSAP • REST APIs • Git • GitHub • Deployment • Generative AI • LLM APIs • Prompt Engineering • AI Chatbots • Streaming Responses

Detailed Course Curriculum & Modules

MODULE 01 HTML Fundamentals • Introduction to Frontend & HTML Basics • Tags, Elements, Attributes & Comments • Headings, Paragraphs & Text Formatting • Lists, Links & Images • Tables & Forms, Input, Textarea, Select, Label & Buttons • HTML5 Semantic Tags, Iframes, Audio & Video	MODULE 02 CSS Essentials • Inline, Internal & External CSS, Selectors • Colors, Backgrounds, Borders, Box Model • Fonts & Google Fonts, Margin & Padding • Display Properties, Positioning & Z-index • Flexbox, Media Queries & Responsive Design
MODULE 03 Bootstrap 5 • Setup & CDN, Containers & Grid System • Typography, Buttons, Images, Alerts & Badges • Cards, Modals, Forms & Navbar • Carousel, Utility Classes, Responsive Visibility • Bootstrap Customization	MODULE 04 JavaScript — Beginner to Advanced • Variables, Data Types, Operators, Loops, Functions • Arrays & Objects, DOM & Browser Events, Form Validation • Advanced JS: Closures, Callbacks, Promises, async/await • Fetch API & AJAX, Event Loop, Storage & Data (localStorage) • Object-Oriented JS, Error Handling, Modules & Dev Tools
MODULE 05 React.js • React Fundamentals, Real DOM vs Virtual DOM, SPA vs MPA • Components, JSX, Props, State, React Events • React Hooks (useState, useEffect, useContext, useRef, useMemo) • Routing & State Management (React Router, Redux) • GSAP Installation & Basic Animations	MODULE 06 AI Integration for Frontend • Introduction to AI Integration & Large Language Models (LLMs) • Working with AI APIs & API Keys (handling states, error rates) • Prompt Engineering (structured outputs, dynamic prompts) • Building AI Chatbot Interfaces & Streaming Responses • AI-Powered Projects (ChatGPT UI, AI Summarizer, Chat with PDF)

Practical Projects & Industry Capstones

- Calculator
- Digital Clock
- Image Slider/Gallery
- Quiz Application
- Weather Application using API
- ChatGPT-Style Conversational Interface
- Streaming AI Chat Application
- AI Content Generator
- AI-Powered Text Summarizer
- AI Search Interface
- Chat with PDF Frontend
- Knowledge Base Chatbot Interface
- Multimodal AI Interface

■ Industry Certification Authorized certificate verified globally via online portal.	■ 100% Placement Support Resume review, mock interviews, and recruiter connections.	■ Lab Access & Mentorship Dedicated workstation lab hours with expert guidance.
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