# React Learning Roadmap (Frontend Only)

## Stage 1 — Fundamentals

* What is React & how it works (Virtual DOM, components)
* Creating a React app (Vite setup)
* JSX syntax & rules
* Functional components
* Rendering JavaScript expressions with { }
* Styling in React (inline, CSS, CSS Modules)
* useState — local state management
* Event handling (onClick, onChange, etc.)
* Conditional rendering (if, ternary, &&)
* Rendering lists with .map() and key

## Stage 2 — Intermediate React

* Props (passing data between components)
* Props destructuring
* Lifting state up
* Controlled vs uncontrolled components (forms)
* useEffect — side effects & API calls
* useRef — accessing DOM & persisting values
* useReducer — managing complex state
* useContext — avoiding prop drilling
* Component composition
* Reusable components

## Stage 3 — Advanced React

* Custom hooks
* React Router v6+ (routing & navigation)
* Code splitting with React.lazy & Suspense
* Performance optimizations:
* React.memo
* useCallback
* useMemo
* Error boundaries
* PropTypes & TypeScript basics
* State management:
* Redux Toolkit
* Zustand / Jotai (optional)
* Data fetching libraries:
* React Query (TanStack Query)
* SWR

## Stage 4 — Pro UI & Best Practices

* UI libraries (MUI, Chakra, shadcn/ui)
* Animations (Framer Motion, React Spring)
* Dark/light mode theming
* Accessibility (a11y)
* Internationalization (i18n)
* Folder structure & scalability patterns

## Stage 5 — Finishing Touches

* Debugging with React DevTools
* Performance audits (Lighthouse)
* SEO in SPA (React Helmet)
* Error logging (Sentry, LogRocket)
* Building & deploying (Vercel, Netlify)
* Creating your own reusable component library