

# LLM Apps

Next.js and Vercel in Depth

# From Python to Javascript

- Like most AI-related tools, LangChain and LlamaIndex were initially written in Python.
- On the other hand, most tools related to web applications are written in JavaScript.
- As a result, LangChain and LlamaIndex have been translated into JavaScript to make it easier to create web applications with them.

# Typescript

- TypeScript is a way of writing JavaScript a bit more structured than pure JavaScript. This variant is used in many modern web applications and has been adopted by LangChain and LlamaIndex for their JavaScript versions.

# Next.js and Vercel

- The most popular solution for creating a web application's frontend is Next.js with Vercel.
  - Next.js is a framework based on React, which in turn is based on JavaScript.
  - Vercel is a hosting service created by the creators of Next.js and specially designed to host applications of this framework.
- LangChain and LlamaIndex's web applications usually use:
  - TypeScript, Next.js, and Vercel for the frontend.
  - FastAPI, a vector database, and AWS for the backend.

# Learning Next.js

- It is advisable to familiarize yourself with the basics.
- The Next.js tutorial is very comprehensive.
  - Basic concepts of web application development: from development to production
  - JavaScript: introducing programming in static web pages.
  - React: JavaScript in packs (components).
  - Next.js: Simplified React for web applications.
  - Next.js starter template: `npx create-next-app@latest`
  - Creating pages
  - Using external data
  - Dynamically creating URLs
  - Using an API
  - Deploying to Vercel

# Learning Vercel

- It is advisable to familiarize yourself with the basics.
- On the Vercel website:
  - Getting started guide.
  - Templates.
  - Integrations.
  - Guides on specific topics.
  - Plans and pricing.

# Web application with Next.js: Basic Concepts

- npm
- package.json
- npm install react react-dom next
- /node\_modules
- change index.html to index.js or index.jsx
- /pages
- add script in package.json to run nextjs dev server
- npm run dev
- Fast Refresh
- From development to production: compile, minify, etc.