

Project 1: Personal Website

Build a personal website that showcases your skills and experiences.

Tasks

- Create a portfolio website that showcases your skills and experiences
- Create a 2-min video explaining your portfolio website design, inspiration, and future plans
- Bonus: Buy and connect to a custom domain for your portfolio website
- Bonus: Rank top 10 in SEO when searching your name
- Bonus: Create a product landing page and host on Vercel
- Bonus: Mention AI resources or showcase your excitement about being an AI-engineer in your portfolio website

[HTML5 UP! Responsive HTML5 and CSS3 Site Templates](#)

Project 2: Pantry Tracker

Build a pantry management application using Next.js, Material UI, and Firebase.

Next.js

React

Firebase

GCP

Vercel

OpenAI

CI/CD

Tasks

- Set up a Next.js project with Material UI components
- Implement a Firebase backend for data storage
- Create a form to add, delete, and update pantry items
- Add a search or filter functionality to easily find items
- Create a presentable frontend design to display all pantry items

- Deploy to Vercel and use CI/CD
- Bonus: Take images with mobile or browser camera and upload to Firebase
- Bonus: Use GPT Vision API or other LLMs to classify images and then update to Firebase
- Bonus: Use GCP Vertex AI and AutoML to classify 4-5 images of items near you and update Firebase
- Bonus: Add a recipe suggestion feature based on pantry contents using the OpenAI API or OpenRouter API

[Project 2: Pantry Tracker - New Video](#)

[Project 2: Pantry Tracking App \(loom.com\)](#) – Original Video

[Project 2: Tutorial by Lynjai \(Base Level\)](#)

[Building an Inventory Management App with Next.js, React, and Firebase | by Bill Zhang | Jul, 2024 | Medium](#)

[Build a NextJS 13 App with Firebase & Tailwind CSS - YouTube](#)

[How To Deploy a NextJS App To Vercel \(EASY AND QUICK!!!\) \(youtube.com\)](#)

[Learn MUI \(Material UI\) in under 10 min! \(youtube.com\)](#)

[What is Firebase and how to use it \(youtube.com\)](#)

[Llama 3.1 8B Instruct \(free\) - API, Providers, Stats | OpenRouter](#)

[OpenAI Vision API Crash Course - Chat with Images \(Node\) \(youtube.com\)](#)

[react-camera-pro - npm \(npmjs.com\)](#)

[Practical AI 012a: Training an Image Classification Model with Vertex AI \(youtube.com\)](#)

[Hello image data: Train an AutoML image classification model | Vertex AI | Google Cloud](#)

Project 3: AI Customer Support

Build an AI-powered customer support chatbot using Next.js and the OpenAI API.

Next.js

React

OpenAI

Vercel

Streaming

Pinecone

Tasks

- Level 1: Create a basic chatbot with hard coded responses
- Level 2: Respond to the user intelligently using any Gen-AI model
- Level 3: Deploy your web-app to AWS EC2 Servers
- Level 3.5: Respond to the user with LLMs through the AWS Bedrock API
- Level 4: Implement RAG so the chatbot responds based on a given knowledge base
- Level 4.5: Create an LLM orchestration pattern with a router and task specific models
- Bonus: Add multi-language support to cater to a diverse customer base
- Bonus: Add user authentication to personalize the chat experience
- Bonus: Implement a feedback mechanism for users to rate the chatbot's responses

[Project 3 Video](#)

[Project 2: AI Customer Support \(loom.com\)](#) – Original Video

[Building an AI-Powered Support Assistant with Next.js and OpenAI | by Bill Zhang | Aug. 2024 | Medium](#)

[Headstarter RAG Workshop \(loom.com\)](#)

[Llama 3.1 8B Instruct \(free\) - API, Providers, Stats | OpenRouter](#)

[Simplified ChatGPT API Setup on Node.js for Newbies!](#)

[How to Improve LLMs with RAG \(Overview + Python Code\) \(youtube.com\)](#)

[Build and Deploy a RAG app with Pinecone Serverless \(youtube.com\)](#)

Project 4: AI Flashcards & Stripe

Build a flashcard SaaS with Next.js, Clerk, Firebase, OpenAI, and Stripe.

Next.js

React

Firebase

OpenAI

Clerk

Stripe

Tasks

- Level 1: Build the web application, make a powerpoint demo, & update your resume and personal site to include this project
- Level 2: Create videos on Instagram, TikTok, and other social medias to promote your app, make sure to include the Stripe URL
- Level 3: Add analytics to the web app & launch to 100 users or get 100 users on your waitlist
- Level 4: Get 10 paid customers. Share a screenshot of your Stripe revenue in your Reddit post

[Tutorial Video](#)

[Creating a Flashcard SaaS with OpenAI and Stripe | by Bill Zhang | Aug, 2024 | Medium](#)

[Michael Seibel - How to get your first ten customers? \(youtube.com\)](#)

[viralvinny.ai](#) - Generate Social Media Scripts (Code: Headstarter)

[API Reference - OpenAI API](#)

[Welcome to Clerk Docs](#)

[Stripe Documentation](#)

Project 5: AI Rate My Professor

Build the Rate My Professor AI Assistant with Next.js, OpenAI, and Pinecone.

Next.js

React

OpenAI

Pinecone

Tasks

- Level 1: Build the Rate my Professor support agent using data stored in Pinecone
- Level 2: Implement a feature that allows users to submit links to various professors' pages on Rate My Professor. The data from these web pages should then be automatically scraped and inserted into Pinecone.
- Level 3: Implement an advanced search and recommendation system that allows users to query and receive personalized professor recommendations based on input criteria
- Level 4: Integrate sentiment analysis and trend tracking to provide insights into changes in professor ratings and review sentiments over time.

[Tutorial Video](#)

[Building a RAG-Powered AI Assistant: The Rate My Professor Project | by Bill Zhang | Aug. 2024 | Medium](#)

[Headstarter RAG Workshop \(loom.com\)](#)

[Meta: Llama 3.1 8B Instruct \(free\) – Run with an API | OpenRouter](#)

[Vector Databases simply explained! \(Embeddings & Indexes\) \(youtube.com\)](#)

[Vector Databases - Introduction | Vector Embeddings and Similarity Search \(youtube.com\)](#)

[The Ultimate Guide to Sentiment Analysis using the Open AI API \(youtube.com\)](#)

[Home - Pinecone Docs](#)

Bonus: Build a Backend with Convex

Need help starting your final project? This video introduces Convex, a modern backend-as-a-service.

[Tutorial Video](#)

[Next.js Quickstart | Convex Developer Hub](#)

https://youtu.be/vaQZYRSiimI?si=MAuQMu_DkYC-Opyq

https://youtu.be/4ojKx770_0Q?si=Ybt5aMeIK_nVh5To