TO VIBE OR NOT TO VIBE

An Intro to AI Assisted Coding

◼ Architecture

There are some fundamental concepts for LLMs that will be helpful:

- Parameter
  - A learning node inside the machine learning model. Higher parameter counts are generally associated with better models.
- Token
  - A unit of input extracted from your prompt. These are what the model actually operates on. When working with remote models (Like ChatGPT and Claude) you are usually charged based on you input and output token count.
- Prompt
  - The input text you send to the LLM. This gets broken down into tokens and operated on by the LLM's transformers. The longer the prompt you send the longer it takes to process and generally the more expensive the call for a completion.
- Context
  - You can think of this like the "memory" of the model. These are additional tokens that get fed into the LLM's transforms along with your prompt. The larger the context the more "memory" you have to work with for providing additional context for you queries.

Usage

- Prompt Engineering
  - The act of iteratively adjusting prompts to reach a specific outcome.
- Hallucinations
  - When an LLM responds with data that is false or made up.
- Fine Tuning
  - Adjusting model weights based on an additional data set.
- Retrieval Augmented Generation (RAG)
  - RAG is a more cost efficient way of providing context to an LLM. It indexes files and creates embeddings in a separate database that can be queried and used to only return relevant data for the current query.
- Vibe Coding
  - The act of prompting an LLM to generate code without doing much in the way of reviewing the generated code.

◼ AI Assisted Coding

Kind of like vibe coding, but you take a much more hands on approach
to writing code with AI. You review all generated code, write specific
but concise prompts, and never forget that coding is fun!

Model/Service Comparisons

Model	Reasoning	Speed	Cost
Claude 4 Opus	Complex	Slow	$$$$
o3	Complex	Slow	$$$
Gemini 2.5 Pro (Preview)	Complex	Slow	$
Claude 4 Sonnet	Simple	Medium	$$$
o4-mini	Simple	Medium	$
GPT-4.1	None	Medium	$$
GPT-4.1 mini	None	Fast	¢
Claude 3.5 Haiku	None	Fast	¢
Gemini 2.5 Flash (Preview)	None	Fast	¢
Gemini 2.0 Flash	None	Fast	¢

Create a personal website for me. Here's what I'd like you to know about me:

- facts about me
- my job
- my hobbies

I want the site to have:

- specific features I want (e.g. a blog)

For design inspiration, I like the style of:

- links to sites I like (e.g. figma.com)

Example 1 - Tech Professional

Create a personal website for me. Here's what I'd like you to know about me:

- I'm a software engineer who loves problem-solving and building things
- I work at a fintech startup focusing on mobile payments
- I'm passionate about rock climbing and urban gardening

I want the site to have:

- A portfolio section showcasing my coding projects
- A blog where I write about tech trends and climbing adventures
- Cool animations like smooth scrolling and hover effects on project cards

For design inspiration, I like the style of:

- Linear.app - clean, modern, with subtle gradients
- Stripe.com - minimal typography and lots of white space

■ Example 2 - Creative Professional

Create a personal website for me. Here's what I'd like you to know about me:

- I'm a freelance UX designer who believes design should tell stories
- I currently work with healthcare and education clients
- I love vintage film photography and collect old cameras

I want the site to have:

- A case study gallery with detailed project breakdowns
- A blog for design insights and photography posts
- Cool animations like parallax scrolling and image reveals on scroll

For design inspiration, I like the style of:

- Figma.com - colorful, playful, but still professional
- Awwwards.com - creative layouts with engaging interactions

Follow Up Prompts

Design Refinements

- Add a dark mode toggle option
- Make the typography more playful and less corporate
- Add better visual hierarchy
- Add smooth transitions between different sections

Accessibility

- Ensure the site is using semantic HTML elements
- Make proper use of aria attributes for non-semantic elements
- Verify contrast ratios meet WCAG guidelines

Functionality

- Include social media icons that link to my profiles
- Add a newsletter signup form in the footer
- Add a contact form with fields for project inquiries
- Include a downloadable resume/CV button