

Activity: *Vibe Coding*

17-313 Spring 2025

Foundations of Software Engineering

<https://cmu-313.github.io>

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What AI tools are you using?

 Claude

 ChatGPT

 Gemini

 CURSOR

 windsurf

How are you using AI for coding?





Andrej Karpathy

@karpathy



There's a new kind of coding I call "vibe coding", where you fully give in to the vibes, embrace exponentials, and forget that the code even exists. It's possible because the LLMs (e.g. Cursor Composer w Sonnet) are getting too good. Also I just talk to Composer with SuperWhisper so I barely even touch the keyboard. I ask for the dumbest things like "decrease the padding on the sidebar by half" because I'm too lazy to find it. I "Accept All" always, I don't read the diffs anymore. When I get error messages I just copy paste them in with no comment, usually that fixes it. The code grows beyond my usual comprehension, I'd have to really read through it for a while. Sometimes the LLMs can't fix a bug so I just work around it or ask for random changes until it goes away. It's not too bad for throwaway weekend projects, but still quite amusing. I'm building a project or webapp, but it's not really coding - I just see stuff, say stuff, run stuff, and copy paste stuff, and it mostly works.

6:17 PM · Feb 2, 2025 · **4.5M** Views



1.2K



4.6K



27K



14K



Activity setup

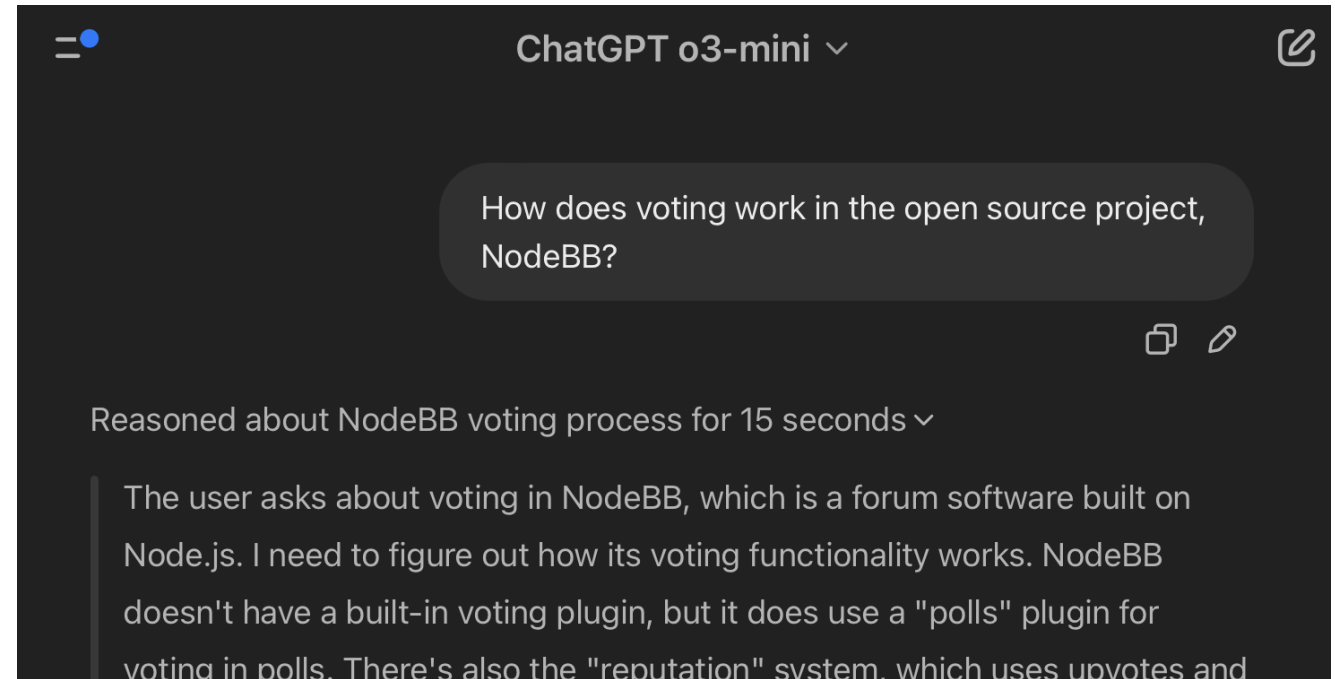
1. Everyone should participate on their own laptop
 - Feel free to sit with others and help each other
 2. Use your project repo or clone a fresh copy of NodeBB
 - <https://github.com/CMU-313/NodeBB>
 3. Open an AI chat in the browser
 - ChatGPT, Gemini, or Claude
- For these tasks, use AI **as much as** possible
 - Attempt to do exactly what the AI says
 - If it does something wrong, make it fix it

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Part #1

- Ask the AI to explain how the NodeBB voting functionality is implemented in your own words
- Don't give it any code
- Does it look correct?
- How would we know?



Write down: Something it told you that you think is correct and something incorrect

Part #2

- Ask specifically where in the code is the voting mechanism handled? Go check
- Do not provide any code to the AI
- Follow the AI's advice as precisely as possible
- Is it correct?

Write down: Where it told you and if it was correct, partially correct, or wrong

The screenshot shows a NodeBB forum interface. At the top, it says 'NodeBB' and 'Home'. Below that is a 'General Discussion' section with a description 'A place to talk about whatever you want' and statistics '2 topics' and '2 posts'. There are navigation options: 'All tags', 'Recently Replied', and a 'Log in to post' button. Two posts are visible:

- Post 1:** 'Prof. Henley is my second fav prof ever' (posted about 2 hours ago). It has >9000 upvotes, 2.3K replies, and 5M views. A note indicates 'Everyone has replied'.
- Post 2:** 'Welcome to your NodeBB!' (posted about 3 hours ago). It has 0 upvotes, 1 reply, and 2 views. A note indicates 'No one has replied'.

Part #3

- **Task: Make any votes by admins count as 5 points**
- Do not provide any code to the AI
- Follow the AI's advice as precisely as possible
- Is it correct?
- What did you ask it?

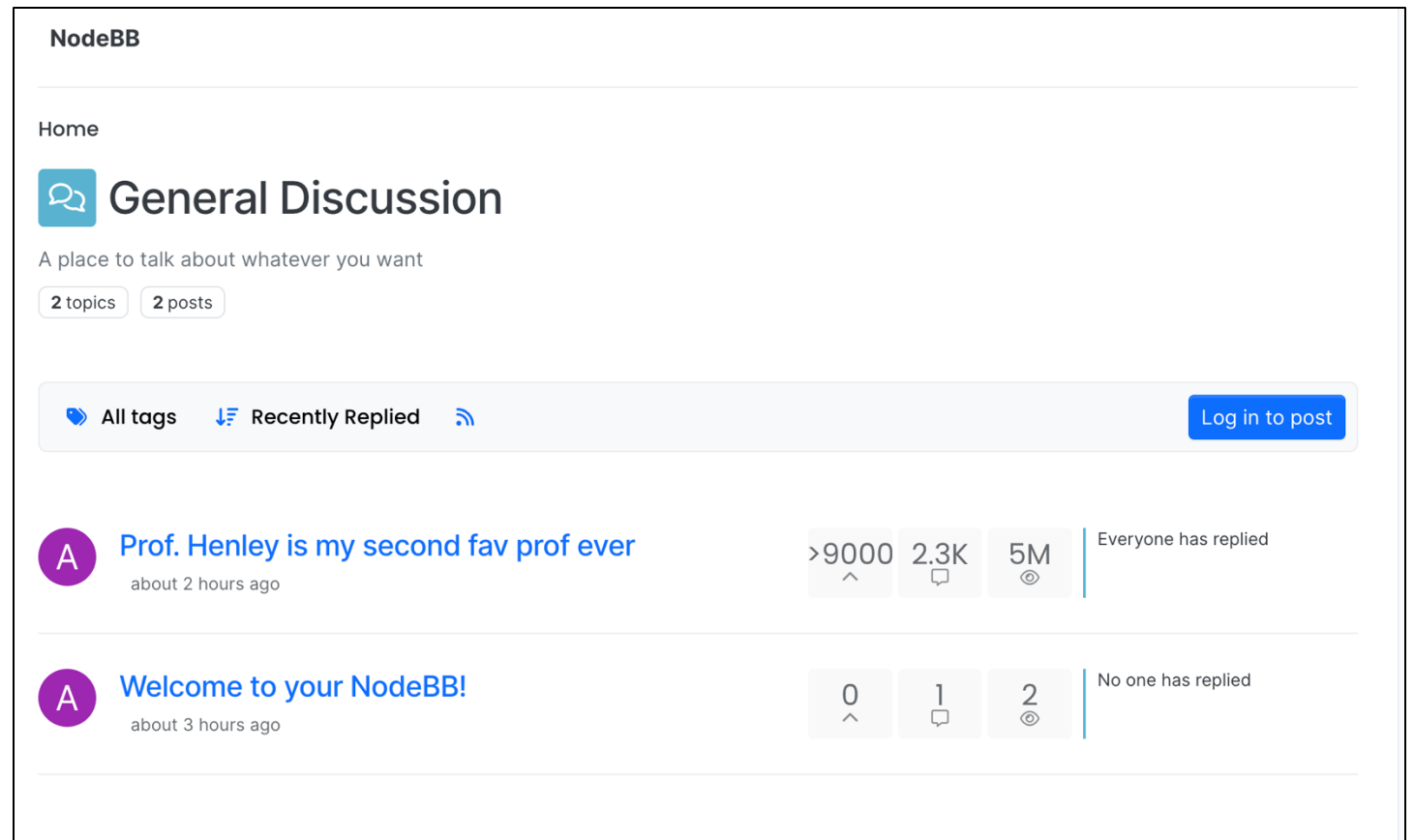
Write down: Something it told you that you know is false

The screenshot shows a NodeBB forum interface. At the top, it says 'NodeBB' and 'Home'. The main section is titled 'General Discussion' with a subtitle 'A place to talk about whatever you want'. Below this, there are filters for '2 topics' and '2 posts'. A navigation bar includes 'All tags', 'Recently Replied', and a 'Log in to post' button. Two posts are visible: the top one is 'Prof. Henley is my second fav prof ever' by user 'A', posted 'about 2 hours ago', with >9000 upvotes, 2.3K replies, and 5M views, and a note that 'Everyone has replied'; the bottom one is 'Welcome to your NodeBB!' by user 'A', posted 'about 3 hours ago', with 0 upvotes, 1 reply, and 2 views, and a note that 'No one has replied'.

Part #4

- **Task: Make any votes by admins count as 5 points**
- ~~Do not provide any code to the AI~~
- Follow the AI's advice as precisely as possible
- Is it correct?
- What did you ask it?

Write down: What went wrong?



The screenshot shows a NodeBB forum interface. At the top, it says 'NodeBB' and 'Home'. Below that is a 'General Discussion' section with a description 'A place to talk about whatever you want' and '2 topics' and '2 posts'. There are navigation options: 'All tags', 'Recently Replied', and a 'Log in to post' button. Two posts are visible:

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Let's try Cursor: <https://www.cursor.com>

The screenshot displays the Cursor AI Code Editor website and its interface. The website header includes the Cursor logo, navigation links for PRICING, FEATURES, ENTERPRISE, BLOG, FORUM, and CAREERS, and a DOWNLOAD button. The main heading reads "The AI Code Editor" with the tagline "Built to make you extraordinarily productive, Cursor is the best way to code with AI." Below this are buttons for "DOWNLOAD FOR MACOS" and "ALL DOWNLOADS". The interface shows a code editor with a Rust struct definition for TransportStack and a chat window with a prompt: "Could you make it easier to switch certificates in the transport listeners?" and a response: "I'll help modify the code to make certificate switching more flexible. The main changes will be to enhance the TlsAccept trait and modify how certificates are handled in the TlsSettings. Here are the key changes:".

CURSOR

PRICING FEATURES ENTERPRISE BLOG FORUM CAREERS

DOWNLOAD

The AI Code Editor

Built to make you extraordinarily productive, Cursor is the best way to code with AI.

DOWNLOAD FOR MACOS ALL DOWNLOADS

```
mod.rs x
```

Implement the cleanup function for the tranport stack. Do not make the upgrade listeners optional.

Accept Reject Follow-up instructions... ⌘K

```
72 pub(crate) struct TransportStack {
73     l4: ListenerEndpoint,
74     tls: Option<Arc<Acceptor>>,
75     // listeners sent from the old process for graceful upgrade
76     #[cfg(unix)]
77     upgrade_listeners: Option<ListenFds>,
78     upgrade_listeners: ListenFds,
79 }
```

CHAT COMPOSER

mod.rs Current File

Could you make it easier to switch certificates in the transport listeners?

I'll help modify the code to make certificate switching more flexible. The main changes will be to enhance the `TlsAccept` trait and modify how certificates are handled in the `TlsSettings`. Here are the key changes:

mod.rs Ask Copy Apply

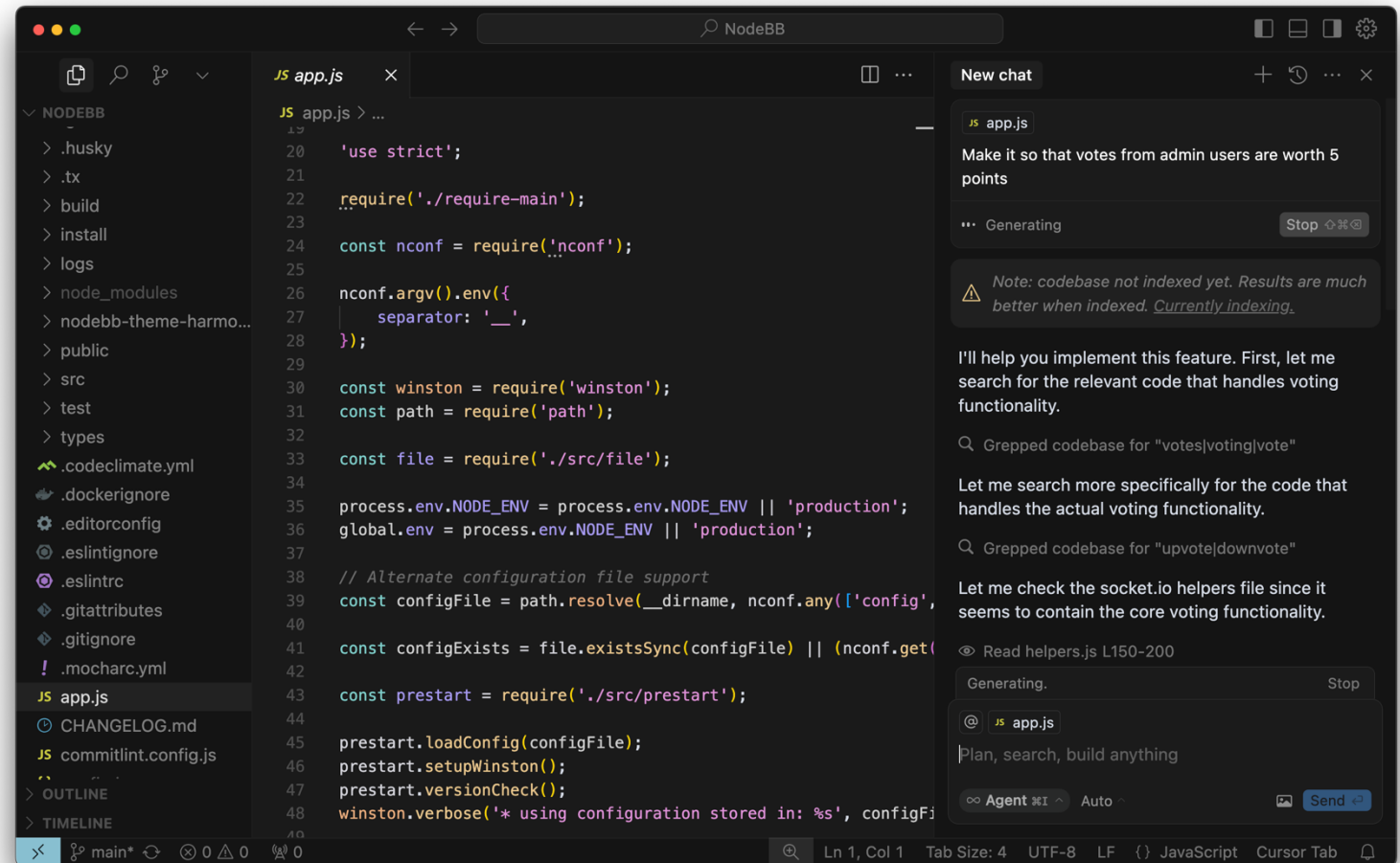
```
// ... existing code ...
```

```
/// The APIs to customize things like certificate during TLS ser
```

Part #5

- **Task: Make any votes by admins count as 5 points**
- Use Cursor to complete the task
- Was this better?

Write down: How does Cursor compare to ChatGPT/Gemini/Claude?



Part #6

Write down: Is its solution different? How?

- **Task: Ask Cursor to complete one of your tasks from P1 or P2**
- Use a fresh NodeBB clone
- How does its solution compare to yours?

The screenshot shows the Cursor IDE interface. On the left is a file explorer for a NodeBB project. The main editor displays the `app.js` file with the following code:

```
JS app.js > ...
19
20 'use strict';
21
22 require('./require-main');
23
24 const nconf = require('nconf');
25
26 nconf.argv().env({
27   separator: '_',
28 });
29
30 const winston = require('winston');
31 const path = require('path');
32
33 const file = require('./src/file');
34
35 process.env.NODE_ENV = process.env.NODE_ENV || 'production';
36 global.env = process.env.NODE_ENV || 'production';
37
38 // Alternate configuration file support
39 const configFile = path.resolve(__dirname, nconf.any(['config',
40
41 const configExists = file.existsSync(configFile) || (nconf.get(
42
43 const prestart = require('./src/prestart');
44
45 prestart.loadConfig(configFile);
46 prestart.setupWinston();
47 prestart.versionCheck();
48 winston.verbose('* using configuration stored in: %s', configFi
```

On the right, a chat window titled "New chat" is open. The user has asked: "Make it so that votes from admin users are worth 5 points". The chat shows a "Generating" status and a note: "Note: codebase not indexed yet. Results are much better when indexed. Currently indexing." Below the note, the chat provides search suggestions and instructions: "I'll help you implement this feature. First, let me search for the relevant code that handles voting functionality." and "Let me check the socket.io helpers file since it seems to contain the core voting functionality." The chat also shows a "Generating" status and a "Send" button.

Discussion

- What did these tools do well?
- What did these tools do badly?
- Any other potential consequences?

