# Scan to ask questions

# Contributing to Open Source with Cursor

December 25, 2025

# Agenda
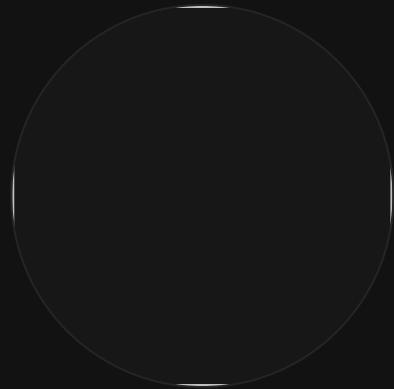
🚀 **Workshop**

❓ **Q/A**

💻 **Hackathon**

👥 **Networking**

🎉 **End**

# Usman Siddique

Software Engineer at **Motive**

# An Analogy: Getting Across Town 🏙️

Imagine you need to get across town. There are many ways to do it...

## Walking

- 💰 Free
- ⏱️ Takes longest
- 💪 Most effort

## Biking

- 💰 Some cost
- ⏱️ Faster
- 💪 Moderate effort

## Driving

- 💰 Most expensive
- ⏱️ Fastest
- 💪 Least effort

🤔 You have the choice between **time**, **money**, **reliability**, and **effort**

# Similarly: Building Software 💻

## No Tools

💰 Free
⏱️ Slowest
⚠️ More errors

## IDE & Tooling

💰 Some cost
⏱️ Faster
✅ Feedback

## AI Tooling

💰 Costs more
⏱️ Fastest
🎯 Practice needed

🚀 AI tools help you build **faster** with **practice**

# Cursor

# AI Models = Super Intelligent APIs

## Stripe API

Handle payments

`stripe.charges.create()`

## Twilio API

Send messages

`twilio.messages.create()`

## AI Model API

Solve any task

`openai.chat.completions()`

⚠️ The key difference: **No guaranteed identical results**

# AI Hallucinations 🌀

When AI **confidently generates incorrect information** that seems plausible

## 🤔 **Why does this happen?**

- AI predicts next token based on patterns

- Like powerful autocomplete

- It doesn't say "I don't know" - generates what seems most likely

## 💻 **In coding, this means...**

- ❌ Inventing APIs that don't exist

- ❌ Wrong function signatures

- ❌ Outdated syntax or methods

- ❌ Plausible but buggy logic

✅ **The fix:** Develop a **verification mindset** — every suggestion is a starting point, not a final answer

# Understanding Tokens 🧩

## What is a Token?

A token can be a word or parts of a word:

`hello` → 1 token

`un` `believ` `able` → 3 tokens

💡 **Why it matters:** Tokens = pricing + speed

## Input vs Output Tokens

📥 **Input Tokens**　　　　　💰 Lower cost

Your prompt + context

📤 **Output Tokens**　　　　　🪰 2-4x more!

Model's response

🌊 **Why streaming?** AI generates tokens one at a time, predicting the next based on previous ones.

# Context Window 📦

| Your Prompt | Chat History | Code Context |
|:---:|:---:|:---:|
| 📝 | 💬 | 📁 |
| **Your Prompt** | **Chat History** | **Code Context** |
| What you ask | Previous messages | Files & snippets |

⚠️ **When context fills up:** AI starts "forgetting" earlier parts → answers get worse

💡 **Mental Model:** Watch the context indicator — **when it's filling up, start a new chat**

# Mental Model Summary 🧠

### 👤 You are in control
LLMs amplify your productivity

### 🎲 Non-deterministic
Same prompt → different responses

### 🌀 LLMs hallucinate
You must verify everything

### 📦 Watch context window
New chat at ~90% filled

# Contributing to Open Source with Cursor

🌍

Understanding any codebase in minutes

# What is Open Source? 📖

Software released under a license where the **copyright holder grants users the right** to use, study, change, and distribute the software and its source code to anyone for any purpose.

## 🏗️ Major Projects
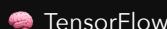
- 🐧 Linux
- 💻 VS Code
- ⚛️ React
- 🐍 Python
- ☸️ Kubernetes
- 🌐 Chromium
- 🧠 TensorFlow
- 💚 Node.js
- 🦊 Firefox
- 🎨 Blender
- 🔀 Git
- 🐘 PostgreSQL

## 🚀 My favourites

- 🔗 Dub.co
- 🗺️ Roadmap.sh
- 🎓 freeCodeCamp
- 🛠️ Build Your Own X

# Why Contribute to Open Source? 🤔

⚠️ **If you're doing it just to get a job... DON'T.**

Open source requires **patience** and **genuine interest**.

✅ **Do it if you want to...**

| 📈 | 🧠 | 🤝 | 🌍 | 👁️ |
|---|---|---|---|---|
| Improve your **skills** | Build a better **mindset** | Build **relationships** | Have real **impact** | Make work **public** |

# Where to Find Open Source Projects 🔍

## ☀️ Google Summer of Code

Paid summer program for students to contribute to open source

## 🐧 LFX Mentorship

Linux Foundation program with stipends for contributors

## 🎓 MLH Fellowship

12-week internship alternative with real projects

## 🪟 Microsoft FOSS Fund

Microsoft's open source contribution programs

## 🌈 Outreachy

Paid internships for underrepresented groups in tech

## 🔥 GitHub Explore

Find trending repos and good first issues directly

💡 Start small, build your portfolio, and grow your network!

# Steps to Your First Contribution 🎯

## 🏷️ 2. Good First Issues

- Look for `good first issue` labels
- Start small, build confidence
- Ask Cursor to explain the issue context

## 📋 3. CONTRIBUTING.md

- Read the contributing guidelines
- Understand code style & conventions
- Check testing requirements

# 4. Writing Good Pull Requests 📝

## 💬 Add "Why" Comments

Don't just explain what the code does – explain **why** it does it.

```
// We use debounce here to

// prevent API spam on

// rapid keystrokes
```

## 📦 Make PRs Small

- ✓ Reviewed more **quickly**
- ✓ Reviewed more **thoroughly**
- ✓ Less **blocking** on reviews
- ✓ Simpler to **roll back**

## 📋 Clear Description

- **What** changed?
- **Why** this approach?
- **How** to test it?
- Link to the **issue**

💡 A good PR tells a **story** – reviewers should understand your thinking without asking questions

# Common Mistakes to Avoid ⚠️

## ❌ Blindly Trusting AI Output

Always review and understand the code AI generates. You're responsible for your commits!

## ❌ Large First PRs

Start small! A 10-line fix is better than a 500-line refactor for your first contribution.

## ❌ Ignoring Project Guidelines

Each project has its own conventions. Read CONTRIBUTING.md and follow the existing patterns.

## ❌ Not Understanding Your Change

If you can't explain what your code does, don't submit it. Take ownership of every line.

# Bonus: Cursor Cloud Agents + Slack 💬

🤖 + 💬

## Work on tasks directly from Slack!

Example message:

```
@cursor fix the login bug in auth.ts and open a PR
```

With Cursor's Slack integration, Cloud Agents can work on your tasks by simply mentioning @cursor with a prompt.

Thank You! 🙏

Let's Connect 🤝