

# Generative AI for East Asian Studies

## Session 3: Introduction to Vibe Coding

Kwok-leong Tang

2026-04-01

### Agenda

1. What is vibe coding?
2. Introduction to Google Antigravity
3. Demo 1: Build a personal website with Antigravity
4. Demo 2: Create a data dashboard from a real-world dataset

### What Is Vibe Coding?

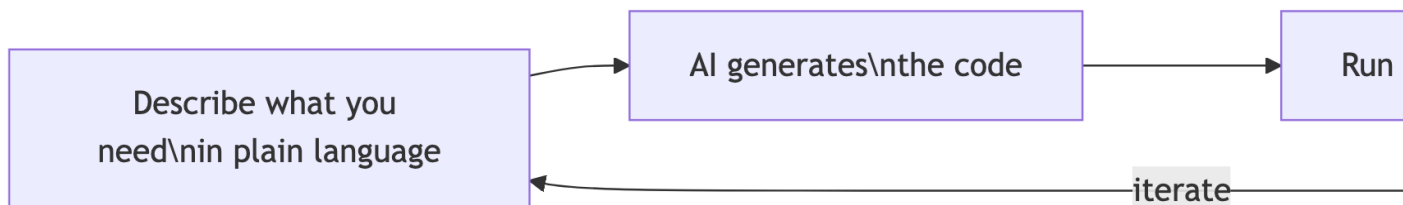
#### The Term

“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.”

— Andrej Karpathy, February 2025

- Named Collins Dictionary **Word of the Year 2025**
- The idea: describe what you want in natural language, and let AI generate the code

#### How Vibe Coding Works



You do **not** need to read the code. You verify the **output** with your expertise.

## Why This Matters for Humanities Scholars

Before vibe coding, building custom tools required:

- Learning a programming language (Python, R, JavaScript)
- Debugging error messages written for developers
- Spending time on Stack Overflow instead of reading primary sources

Now: **describe what you need** → **get a working tool** → **verify with your expertise**

The barrier was never intellectual — it was technical. Vibe coding removes that barrier.

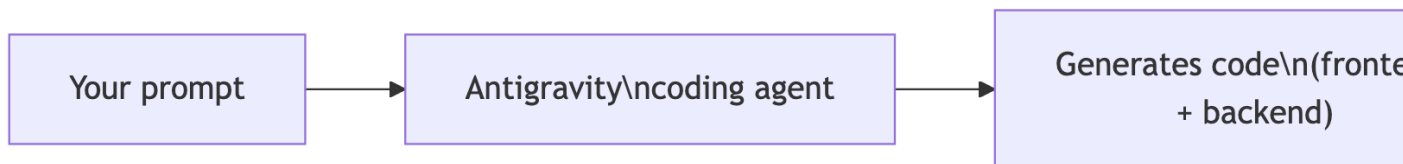
## Google Antigravity

### What Is Antigravity?

[Google Antigravity](#) is an AI-powered development platform announced by Google in November 2025.

- Powered by Google's **Gemini** models
- An **agent-first** paradigm: AI agents operate with greater autonomy
- Available in [Google AI Studio](#) — free for individuals
- Can build full-stack applications from a simple prompt

### From Prototype to Production



Antigravity integrates with **Firestore**, turning prompts into production-ready applications:

- Frontend (HTML, CSS, JavaScript)
- Backend (databases, APIs)
- Deployment (hosting, authentication)

## Why Antigravity for This Workshop?

- **Free** and runs in the browser — no installation needed
- **Visual**: you see the result immediately in a preview panel
- **Full-stack**: can generate websites, dashboards, data visualizations
- Ideal for scholars who want to **build tools without writing code**

### **i** Note

Other vibe coding tools include [Claude Code](#), [Cursor](#), and [OpenClaw](#). We use Antigravity today because it requires no setup.

## Demo 1: Build a Personal Website

### Overview

We will use Antigravity to build a simple academic personal website from scratch — using only natural language prompts.

The website will include:

- A bio section
- Research interests
- Selected publications
- Contact information

### Step 1: Open Google AI Studio

1. Go to [Google AI Studio](#)
2. Sign in with your Google account
3. Click on “**Build with Antigravity**” or start a new project

### Step 2: Write Your Prompt

Enter a prompt like this:

Build me a personal academic website with the following sections:

1. Header with my name and title
2. About Me: I am an assistant professor of East Asian history at [your university]. My rese
3. Research Interests: [list 3-4 interests]
4. Selected Publications: [list 2-3 publications]
5. Contact: email and office address

Use a clean, professional design with a serif font for headings.

#### Tip

**Use your own information!** Replace the placeholders with your real bio. This is your website — make it yours.

### Step 3: Review and Iterate

Antigravity will generate the website in seconds. Review it in the preview panel:

- Does the layout look right?
- Is the information accurate?
- Do you want to change colors, fonts, or sections?

If you want changes, just tell Antigravity:

Change the color scheme to dark navy and gold. Add a sidebar with links to my university dep

### Step 4: Deploy (Optional)

If you are happy with the result, you can deploy it to Firebase:

1. Click “**Deploy**” in the Antigravity panel
2. Follow the Firebase setup prompts
3. Your website is now live at a public URL

#### Note

Deployment is optional for this workshop. The key takeaway is that you built a website in minutes without writing any code.

## Demo 2: Data Dashboard

### The Dataset

We will use AidData's **Geocoded Global Chinese Official Finance Dataset** (Version 1.1.1):

- **3,485 projects** worth **\$273.6 billion** in total official financing
- Chinese government-financed projects across **138 countries**
- **6,190 geocoded locations** from 2000 to 2014
- Includes both ODA-like (aid) and OOF-like (non-concessional) financing

Source: [AidData at William & Mary](#)

### What We Will Build

An interactive dashboard that shows:

1. **A map** of Chinese-financed projects by location
2. **A timeline** of financing by year
3. **Breakdown by sector** (transportation, energy, communications, etc.)
4. **Filters** by country, flow type, and year range

All from a single prompt — no code, no GIS software, no spreadsheet formulas.

### Step 1: Download the Dataset

1. Go to the [AidData download page](#)
2. Download **GeoCoded\_China\_Data\_Merged\_Files.zip**
3. Unzip the file — you will see several CSV files
4. Upload **all\_flow\_classes.csv** to your Antigravity project

### Step 2: Write Your Prompt

```
I have uploaded a CSV file of Chinese government-financed development projects around the world. The file contains the following columns:  
- latitude, longitude (geocoded location)  
- recipient country  
- year (commitment year)  
- flow_class (ODA-like, OOF-like, Vague OF)  
- sector name
```

```
- usd_current (amount in current USD)
```

Please create an interactive dashboard with:

1. A world map showing project locations as dots, colored by flow\_class
2. A bar chart showing total financing by year
3. A pie chart showing breakdown by sector
4. Dropdown filters for country, flow\_class, and year range
5. A summary card showing total projects, total USD, and number of countries

Use a clean design with a dark header.

### Step 3: Review the Dashboard

Antigravity will generate a full interactive dashboard. Check:

- Do the map locations look correct? (You know where Chinese development projects are — use your expertise!)
- Are the financing amounts reasonable?
- Do the sector categories make sense?

#### ! Important

**This is where your domain expertise matters.** You are the expert on Chinese foreign aid — not the AI. If something looks wrong on the map or the numbers don't add up, that is your signal to investigate.

### Step 4: Iterate and Refine

Try refining your dashboard:

```
Add a tooltip to each map dot showing the project title, recipient country, year, and amount
```

```
Change the color scheme: use red for ODA-like flows, blue for OOF-like flows, and gray for V
```

```
Add a new chart showing the top 10 recipient countries by total financing amount.
```

## What You Just Did

In about 15 minutes, you built an interactive data dashboard that would have required:

- **GIS software** (ArcGIS or QGIS) for the map
- **Python or R** for data processing and chart generation
- **HTML/CSS/JavaScript** for the interactive frontend
- **Hours or days** of development time

With vibe coding, you described what you wanted and verified the output with your expertise.

## Takeaways

### What We Learned

1. **Vibe coding** lets you build tools by describing what you need in natural language
2. **Google Antigravity** is a free, browser-based platform for vibe coding with Gemini
3. **Personal websites** can be built in minutes from a prompt
4. **Data dashboards** — including maps, charts, and filters — can be generated from a dataset and a description
5. **Your domain expertise is the verification layer** — you check the output, not the code

### Resources

- [Google Antigravity / AI Studio](#)
- [AidData: Geocoded Chinese Global Official Finance Dataset](#)
- [Andrej Karpathy's vibe coding post](#)
- [Google Developers Blog: Build with Antigravity](#)