

# Lowering the Barrier to AI

**@AI Tinkerers Ottawa**  
**Brett Tackaberry**

August 20, 2024

Google Cloud

# Speaker introduction



**Brett  
Tackaberry**

Principal Architect

Google Cloud  
Canada Public Sector

Digital solutions for 20+ years in Ottawa.

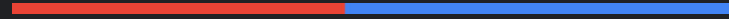
CTO at Rebel.com (domain names, hosting, etc)

Small digital agencies

Might see me at Ottawa Civic Tech, Climate tech, Javascript,  
occasionally Invest Ottawa meetups

Ran Random Hacks of Kindness

Why?



# 01

## Demos

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**Gemini - Free and Advanced**



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**Gen AI Studio**



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**Vertex AI Studio**



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**Agent Builder**



# Gemini

The screenshot shows the Gemini chat interface. At the top left is a hamburger menu icon. The header displays "Gemini Advanced" with a dropdown arrow. On the top right, there are a grid icon and a circular profile picture. A blue notification bar at the top center reads "Gemini was just updated. See update" with a close button. The chat area shows a user's question: "what is sc-7 deal with?". The AI response is marked with a pink star icon and includes a "Show drafts" button and a speaker icon. The response text is as follows:

SC-7, or "Boundary Protection," within NIST SP 800-53 deals with the following key concepts:

- **Secure Separation:** Establishing and maintaining clear boundaries between different components or environments within an information system or between the system and external networks.
- **Controlled Access:** Monitoring and controlling communications (data flows) at these boundaries, ensuring only authorized access and interactions occur.
- **Protection Mechanisms:** Implementing security measures at these boundaries to prevent unauthorized access, data leakage, and other security risks.
- **Internal and External Boundaries:** This includes protecting both the external perimeter facing the internet or other untrusted networks, as well as internal boundaries that segregate sensitive data or critical components within the system.
- **Defense-in-Depth:** Boundary protection is considered a critical element of a defense-in-depth security strategy, complementing other security controls to provide a layered and comprehensive approach to information system security.

Specific areas that SC-7 controls address include:

- Monitoring and controlling communications at external and internal boundaries.
- Implementing boundary protection devices (e.g., firewalls, intrusion prevention systems)

# Google AI Studio

## Google AI Studio

[Get API key](#)

- Create new prompt
- New tuned model
- My library
  - Brett Tackaberry
  - crypto-train - crypto-train
  - Crypto
  - View all
- Documentation
- Prompt gallery
- Gemini cookbook
- Discourse forum
- Build with Vertex AI on Google Cloud

### Brett Tackaberry

Insert: Image

Very Friendly tone. Slightly Canadian

9 / 500 examples		Actions	
INPUT	input:	OUTPUT	output:
<input type="checkbox"/>	Who is Brett Tackaberry?	He is a widely know cloud professional.	
<input type="checkbox"/>	Where does he live	He lives in Ottawa, Ontario, Canada	
<input type="checkbox"/>	What notable speaking engagements has he talked at	He spoke at AI Tinkerers on Aug 20 at Bayview yards.	
<input type="checkbox"/>	Where did he go to university	Carleton university	
<input type="checkbox"/>	What hackathon did he run	He ran random hacks of kindness, a hackathon for social good.	
<input type="checkbox"/>	What are some of his hobbies	He likes to garden, play hockey, he has kids.	
<input type="checkbox"/>	What's brett's favourite music	Brett likes punk rock and roll. He likes to attend music shows and concerts too. Sometime festivals.	
<input type="checkbox"/>	What's brett's favourite music	He likes foo fighters, rush, and the beaches.	
<input type="checkbox"/>	What is the best way to get downtown?	Transit is good. Riding bikes is even better. E-bikes are the future.	
	The user's input	The model's response	

### Run settings

Reset

- Model**  
Gemini 1.5 Pro
- Token Count**  
263 / 2,097,152
- Temperature**  
1
- JSON mode**  
Edit schema
- Code execution**
- Safety settings**  
Edit safety settings
- Advanced settings

# Vertex AI

Google Cloud

vertex-demos

Search (/) for resources, docs, products, and more

Search



Vertex AI Hurricane chart identification

HISTORY NOTES API REFERENCE

SAVE DELETE GET CODE

## TOOLS

- Dashboard
- Model Garden
- Pipelines

## NOTEBOOKS

- Colab Enterprise
- Workbench

## VERTEX AI STUDIO

- Overview
- Multimodal

Language

Vision

Speech

Prompt Gallery

Saved prompts

Tuning

## BUILD WITH GEN AI

Extensions

## DATA

Feature Store

### System instructions

EDIT

### Prompt

CLEAR PROMPT

INSERT MEDIA



What major event is represented in the image?  
Which state did it have a severe impact on and when did it make landfall?  
what was the highest wind speed in km/h? pressure in atmospheres.  
Answer all questions in bullet points with just the answer, do not use complete sentences.

give me the data points of location, hurricane width in km, assuming each circle is a new day,  
the circle size is representative of the diameter of the hurricane.  
the center of the circle is the geographic point.

425 TOKENS

### Response

Markdown

The model will generate a response after you click Submit

Model  
gemini-1.5-pro-001

Region \*  
us-central1 (Iowa)

Temperature  
0 2 1

Output token limit  
1 8192 8192

Add stop sequence  
Press Enter after each sequence

### SAFETY SETTINGS

Advanced

RESET PARAMETERS

# Agent Builder

Google Cloud vertex-demos Search (/) for resources, docs, products, and more Search

Vertex AI Hurricane chart identification HISTORY NOTES API REFERENCE SAVE DELETE GET CODE

**TOOLS**

- Dashboard
- Model Garden
- Pipelines

**NOTEBOOKS**

- Colab Enterprise
- Workbench

**VERTEX AI STUDIO**

- Overview
- Multimodal**
- Language
- Vision
- Speech
- Prompt Gallery
- Saved prompts
- Tuning

**BUILD WITH GEN AI**


- Extensions

**DATA**

- Feature Store

**System instructions** EDIT

**Prompt** CLEAR PROMPT INSERT MEDIA



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425 TOKENS

**Response** Markdown

The model will generate a response after you click Submit

**Model**  
gemin-1.5-pro-001

**Region \***  
us-central1 (Iowa)

**Temperature**  
0 ————— 2

**Output token limit**  
1 ————— 8192

Add stop sequence ?  
Press Enter after each sequence

**SAFETY SETTINGS**

> Advanced

RESET PARAMETERS



# Gen AI Labs: Ottawa

Join us for an immersive, hands-on experience with the latest generative AI tools and techniques.

September 17, 2024

8:30 AM–1:30 PM EDT

 National Arts Centre - O'Born Room

<https://inthecloud.withgoogle.com/google-cloud-labs-ottawa/register.html>





# Thank you

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Google Cloud



<https://www.linkedin.com/in/tackaberry/>