

GEMINI NANO

ONE SMALL MODEL FOR CHROME, ONE GIANT LEAP FOR BUILT-IN AI



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September 12, 1962 - Rice University Stadium - President John F. Kennedy



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Extravehicular Activity (EVA)

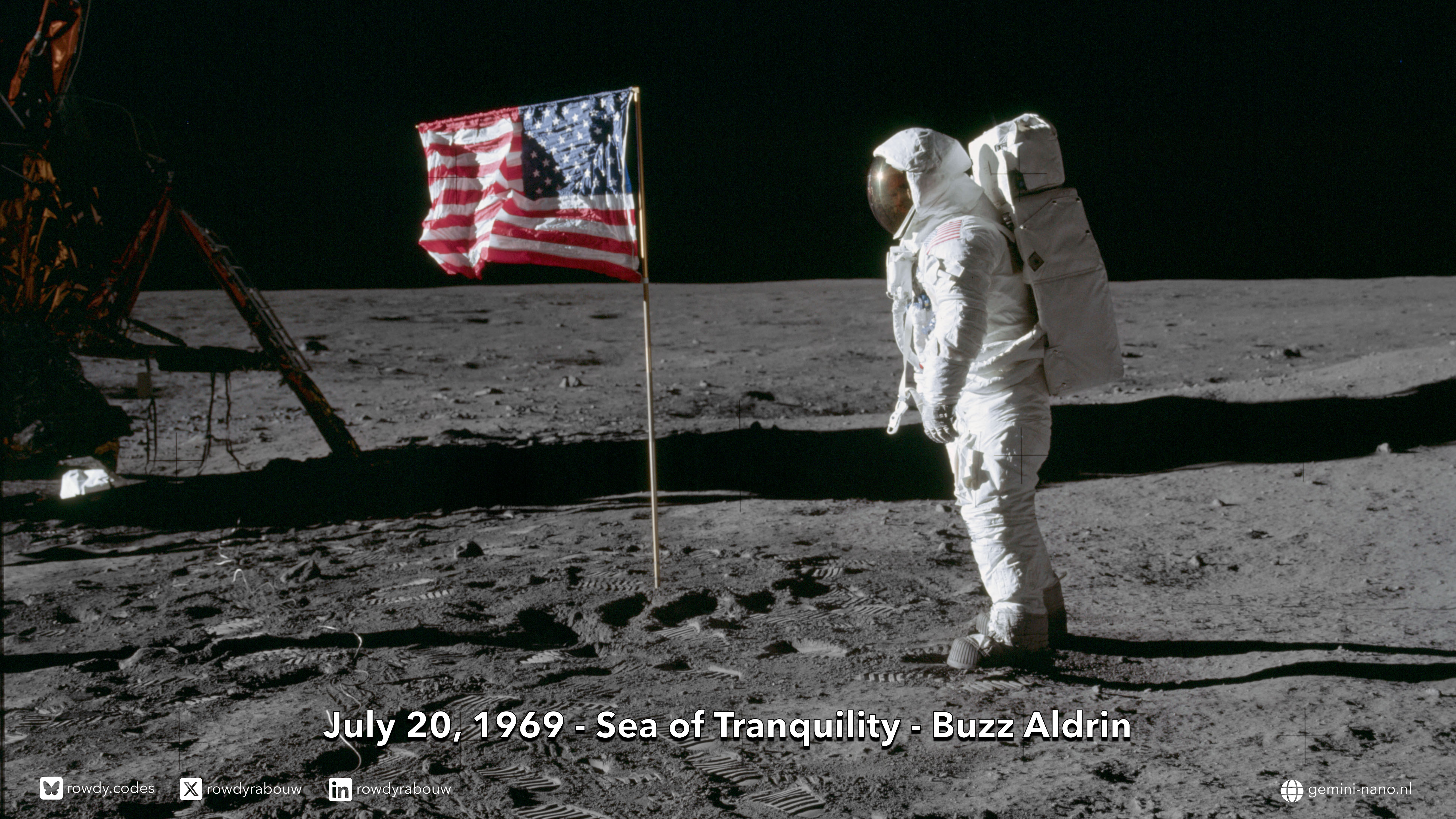
Long-Duration Spaceflight



Rendezvous and Docking

Life Support Systems





July 20, 1969 - Sea of Tranquility - Buzz Aldrin



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A photograph of an astronaut in a white spacesuit standing on the lunar surface. The astronaut is facing away from the camera, looking towards a large American flag planted in the ground. The flag is waving in the breeze. The lunar surface is covered in dust and rocks, with a dark, cratered horizon in the background. The sky is a deep black.

REDEFINE THE BOUNDARIES OF HUMAN POTENTIAL



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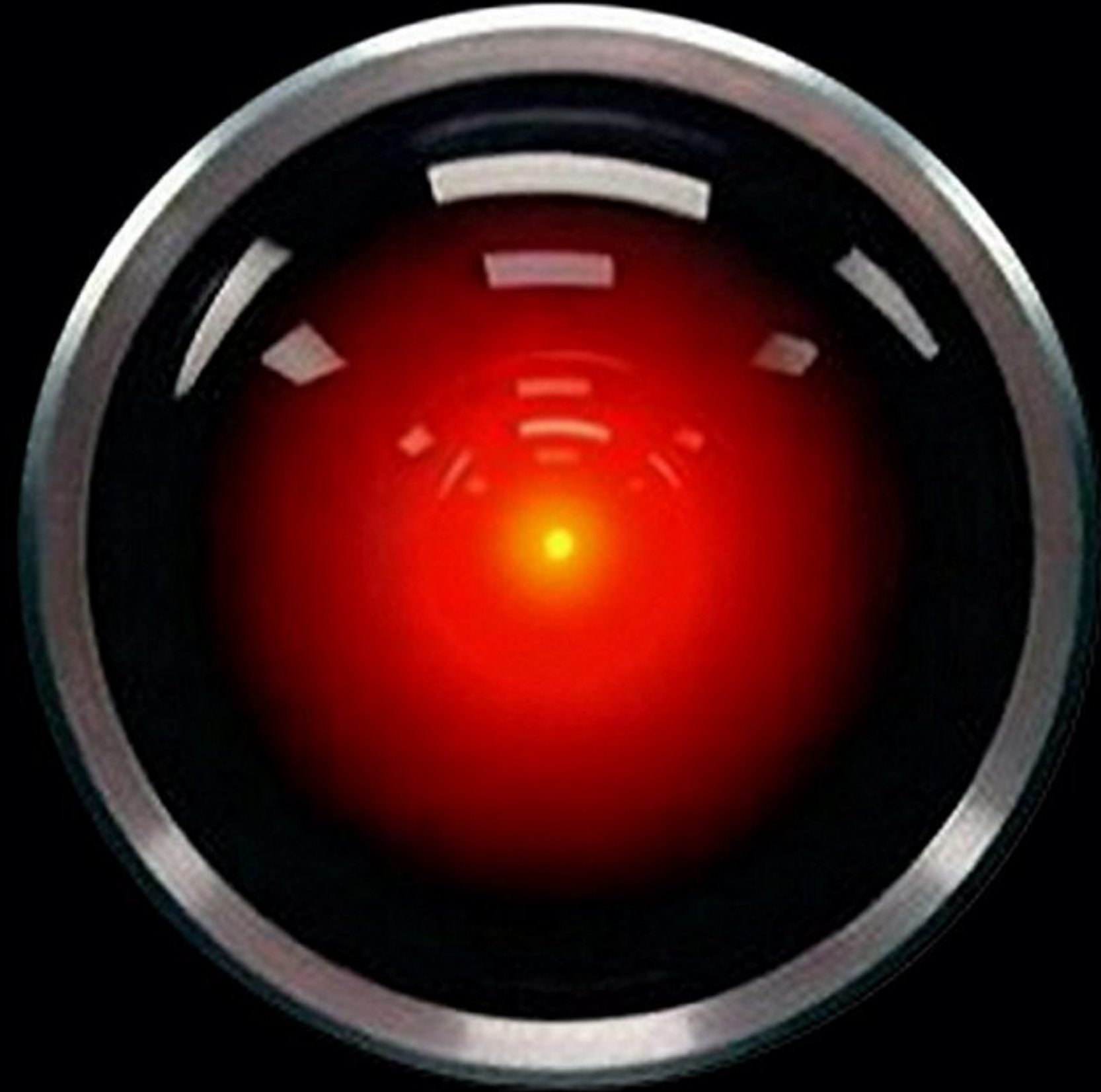
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REDEFINE THE BOUNDARIES OF HUMAN POTENTIAL

HAL9000 - 2001: A Space Odyssey (1968)



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ROWDY RABOUW

Front-End Focused Senior DevOps Engineer
with special attention to usability and accessibility

Webdeveloper since 1996

Google Developer Expert in Web Technologies



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CHROME'S AI MISSION

MAKE CHROME AND THE WEB SMARTER FOR **ALL DEVELOPERS** AND **ALL USERS**



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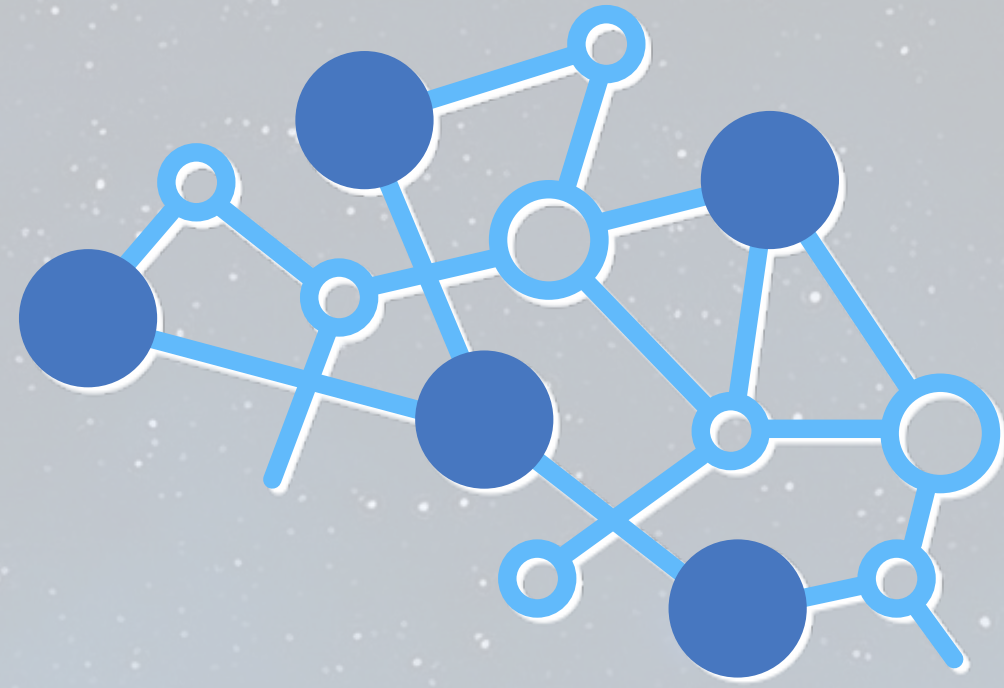
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web

machinelearning

W3C Web Machine Learning Working Group standardizes Web APIs for in-device machine learning inference



Low Latency



Privacy Preserving



High Availability



Low Cost



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GEMINI NANO BUILT-IN

MAKE CHROME AND THE WEB SMARTER FOR **ALL DEVELOPERS** AND **ALL USERS**



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REQUIREMENTS

- Windows 10+ or macOS Ventura (13+) or Linux
- 22GB of free disk space *
- 4GB of GPU VRAM

* Gemini Nano is currently about 4GB
Language models are about 80MB each
Free disk space < 10 GB, models will be removed



AVAILABLE APIS

Enabled by default

Summarizer API (138+)

Translator API (138+)

Language Detector API (138+)

Prompt API (148+)

Origin trials

Writer API

Rewriter API

Proofreader API



AVAILABLE APIS

AI-enhanced
content consumption

Summarizer API

Translator API

Language Detector API

AI-supported
content creation

Prompt API

Writer API

Rewriter API

Proofreader API



WRITER API

tone

formal, neutral, or casual

length

short, medium, or long

format

markdown or plain-text

sharedContext

extra context or information



REWRITER API

tone

more-formal, as-is, or more-casual

format

as-is, markdown, or plain-text

length

shorter, as-is, or longer

sharedContext

extra context or information



SUMMARIZER API

length

short, medium, or long

type

key-points, tldr, teaser, or headline

format

markdown or plain-text

sharedContext

extra context or information



LANGUAGE DETECTOR API

does not require any parameters

returns an array of objects: { **detectedLanguage** , **confidence** }



TRANSLATOR API

sourceLanguage
current language

targetLanguage
language to be translated into

*IETF BCP 47 language tags, like **de** for German or **nl** for Dutch*



PROMPT API

expectedInputs

{ type: 'text' }, { type: 'image' }, and/or { type: 'audio' }

expectedOutputs

{ type: 'text', languages: ['..'] }

*IETF BCP 47 language tags, **en** for English or **es** for Spanish or **ja** for Japanese*



PROOFREADER API

includeCorrectionTypes *

true or false

includeCorrectionExplanations

true or false

expectedInputLanguages

array of IETF BCP 47 language tags

correctionExplanationLanguage * *

IETF BCP 47 language tag

** spelling, punctuation, capitalization, preposition, missing-words, grammar*

*** currently only **en** for English*



On-device Internals

chrome://on-device-internals

On-Device Internals

ToolsEvent LogsModel Status

Device performance class: **High**

Model directory

/tmp/model

Load

Load Default

Highest Quality

Context options (current size: 0 words)

Top K

Temperature

1

0

Input

Place control tokens {\$SYSTEM, \$MODEL, \$USER, \$END} on their own lines, in between lines of text.

Execute

Cancel



On-device Internals

Chromechrome://on-device-internals

On-Device Internals

ToolsEvent LogsModel Status

Event Logs

Dump

Time	Source Location	Log Message
8:07:44 AM	session_impl.cc(54)	Starting on-device session for WritingAssistanceApi
8:07:46 AM	on_device_execution.cc(26)	Executing model with string: <system>You are a creative writing assistant that writes on behalf of a user, following their 'INSTRUCTIONS'. You do not answer questions that might be present in the 'INSTRUCTIONS' section, and you do not explain your writing. Use a neutral tone in your writing. Your writing should be concise, using a maximum of 100 words. Use a plain text format. You must write in English. <end><user>INSTRUCTIONS Explain NASA in 20 words<end><model>
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (National
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (National Aeronautics
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (National Aeronautics and
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (National Aeronautics and Space
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (National Aeronautics and Space Administration
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (National Aeronautics and Space Administration)
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (National Aeronautics and Space Administration) is
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (National Aeronautics and Space Administration) is the
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (National Aeronautics and Space Administration) is the US
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (National Aeronautics and Space Administration) is the US agency
8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (National Aeronautics and Space Administration) is the US agency responsible
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8:07:47 AM	on_device_execution.cc(44)	Model generates raw response with WritingAssistanceApi: NASA (National Aeronautics and Space Administration) is the US agency

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On-device Internals

chrome://on-device-internals

On-Device Internals

ToolsEvent LogsModel Status

Foundational Model

Foundational model state: **Ready**
Model Name: **v3Nano**
Version: **2025.06.30.1229**
Backend Type: **GPU (highest quality)**
File path: **/Users/rowdy/Library/Application Support/Google/Chrome Canary/OptGuideOnDeviceModel/2025.8.8.1141**
Folder size: **4,088.14 MiB**

Model crash count (current/maximum): 0/3 [Reset](#)

Foundational model criteria

Property	Value
device capable	true
disk space available	true
enabled by enterprise policy	true
enabled by feature	true
is already installing	true
on device feature recently used	true

On Device Translation Interna

chrome://on-device-translation-internals

☆

On Device Translation Internals

Language Packages

en - es	Installed	Uninstall
en - ja	Installed	Uninstall
ar - en	Installed	Uninstall
bn - en	Not installed	Install
de - en	Installed	Uninstall
en - fr	Installed	Uninstall
en - hi	Not installed	Install
en - it	Installed	Uninstall
en - ko	Not installed	Install
en - nl	Installed	Uninstall
en - pl	Not installed	Install
en - pt	Installed	Uninstall
en - ru	Not installed	Install
en - th	Not installed	Install
en - tr	Not installed	Install
en - vi	Not installed	Install
en - zh	Installed	Uninstall
en - zh-Hant	Not installed	Install
bg - en	Not installed	Install
cs - en	Not installed	Install
da - en	Not installed	Install
el - en	Not installed	Install
en - fi	Not installed	Install
en - hr	Not installed	Install
en - hu	Not installed	Install
en - id	Not installed	Install
en - iw	Not installed	Install
en - It	Not installed	Install

FEATURE DETECTION

```
if ("Summarizer" in self) { }  
if ("Translator" in self) { }  
if ("LanguageDetector" in self) { }  
if ("LanguageModel" in self) { }  
if ("Writer" in self) {}  
if ("Rewriter" in self) {}  
if ("Proofreader" in self) { }
```



CHECK AVAILABILITY

```
Summarizer.availability();
```

```
Translator.availability({ sourceLanguage: "en", targetLanguage: "nl" });
```

```
LanguageDetector.availability();
```

```
LanguageModel.availability(  
  { expectedOutputs: [{ type: "text", languages: ["en"] }] });
```

```
Writer.availability();
```

```
Rewriter.availability();
```

```
Proofreader.availability();
```

- *unavailable*
- *available*
- *downloadable*
- *downloading*



INITIATE API OBJECT

```
Summarizer.create(options);  
Translator.create(options);  
LanguageDetector.create();  
LanguageModel.create(options);  
Writer.create(options);  
Rewriter.create(options);  
Proofreader.create(options);
```



RUN THE API

```
const text = document.querySelector("article").innerText;

const summary = await summarizer.summarize(text);
console.log(summary);

const stream = summarizer.summarizeStreaming(text);
for await (const chunk of stream) {
  console.log(chunk);
}

const languages = await languageDetector.detect(text);
languages.forEach((item) => {
  console.log(item.detectedLanguage, item.confidence);
});
```

not available (yet) for Proofreader



MICROSOFT EDGE

Writer API

Rewriter API

Summarizer API

Prompt API

Phi 4 mini

Experiments

edge://flags

Search flags

Reset all

Experiments

140.0.3485.94

WARNING: EXPERIMENTAL FEATURES AHEAD! By enabling these features, you could lose browser data or compromise your security or privacy. Enabled features apply to all users of this browser. If you are an enterprise admin you should not be using these flags in production.

Available

Unavailable

Prompt API for Phi mini

Enables the exploratory Prompt API, allowing you to run natural language processing tasks by prompting the Phi-mini language model in Microsoft Edge. Exploratory APIs are designed for local prototyping only, to help discover potential use cases, and may never launch. The Prompt API is intended for natural language processing tasks such as summarizing, classifying, or rephrasing text. It is NOT suitable for use cases that require factual accuracy. Please read the Phi-mini model card [1] for more information and comply with the Intended use and Responsible AI considerations. – Mac, Windows, Linux

<https://go.microsoft.com/fwlink/?linkid=2285563#edge-llm-prompt-api-for-phi-mini>

Enabled

Summarization API for Phi mini

Enables the Summarization API, allowing you to summarize a piece of text with a built-in small language model (Phi-mini language model in Microsoft Edge).The API may be subject to changes including the supported options. Exploratory APIs are designed for local prototyping only, to help discover potential use cases, and may never launch. This API is NOT suitable for use cases that require factual accuracy (e.g. answering knowledge questions). Please read the Phi-mini model card [1] for more information and comply with the Intended use and Responsible AI considerations. – Mac, Windows,

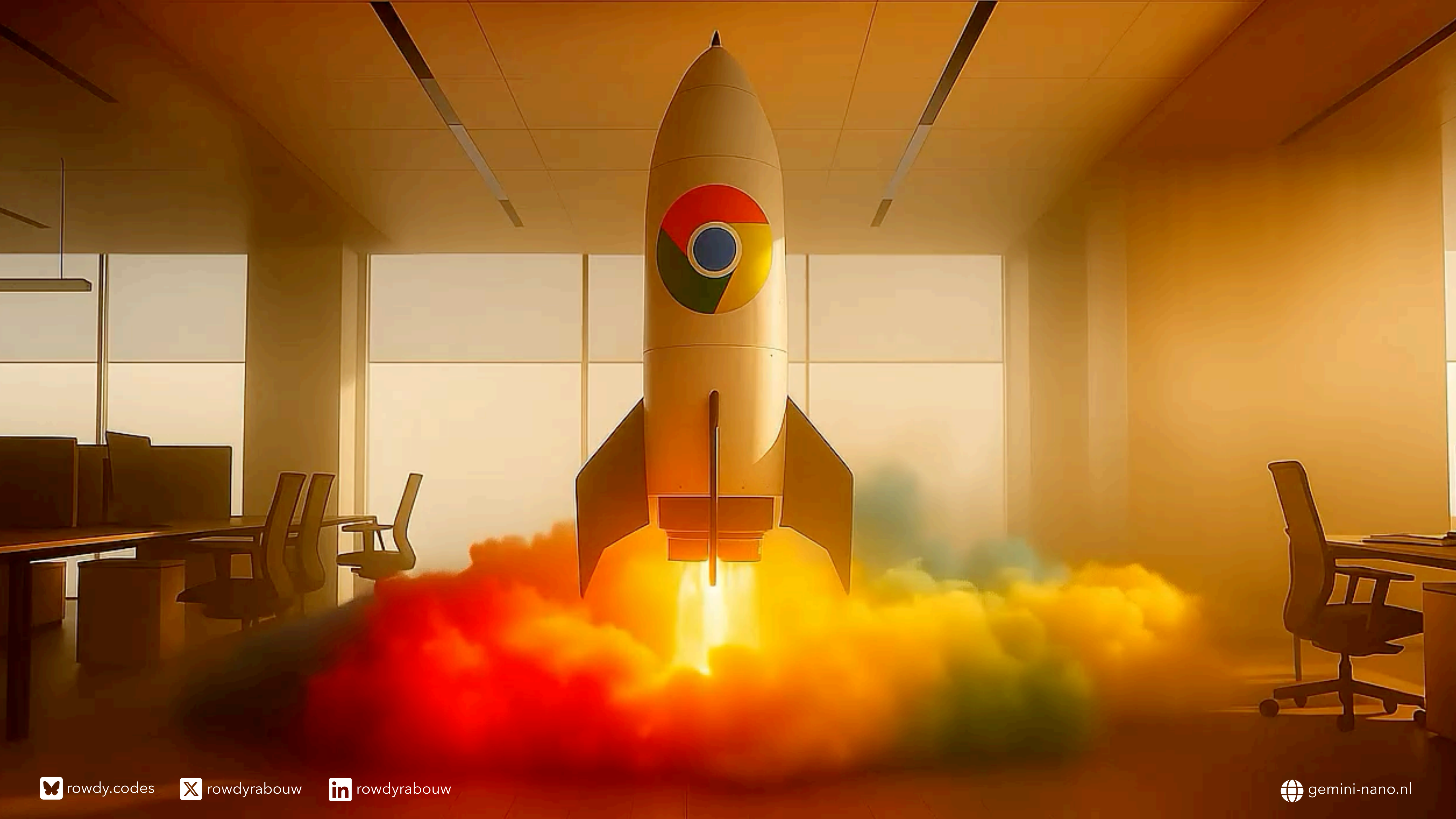
Enabled

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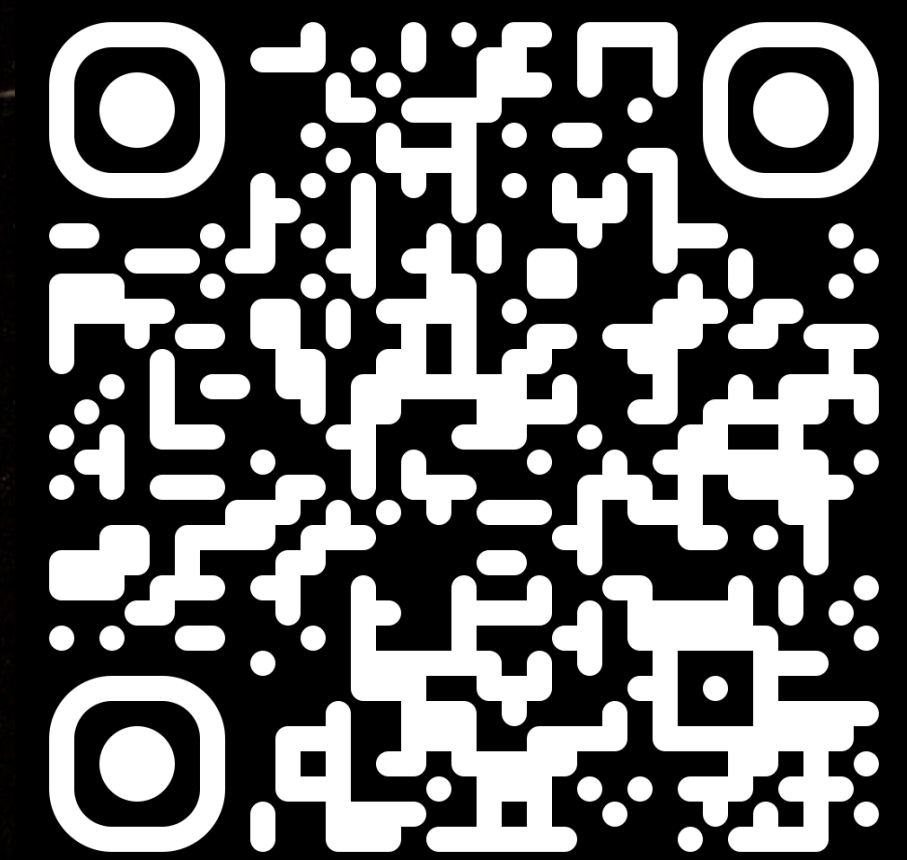
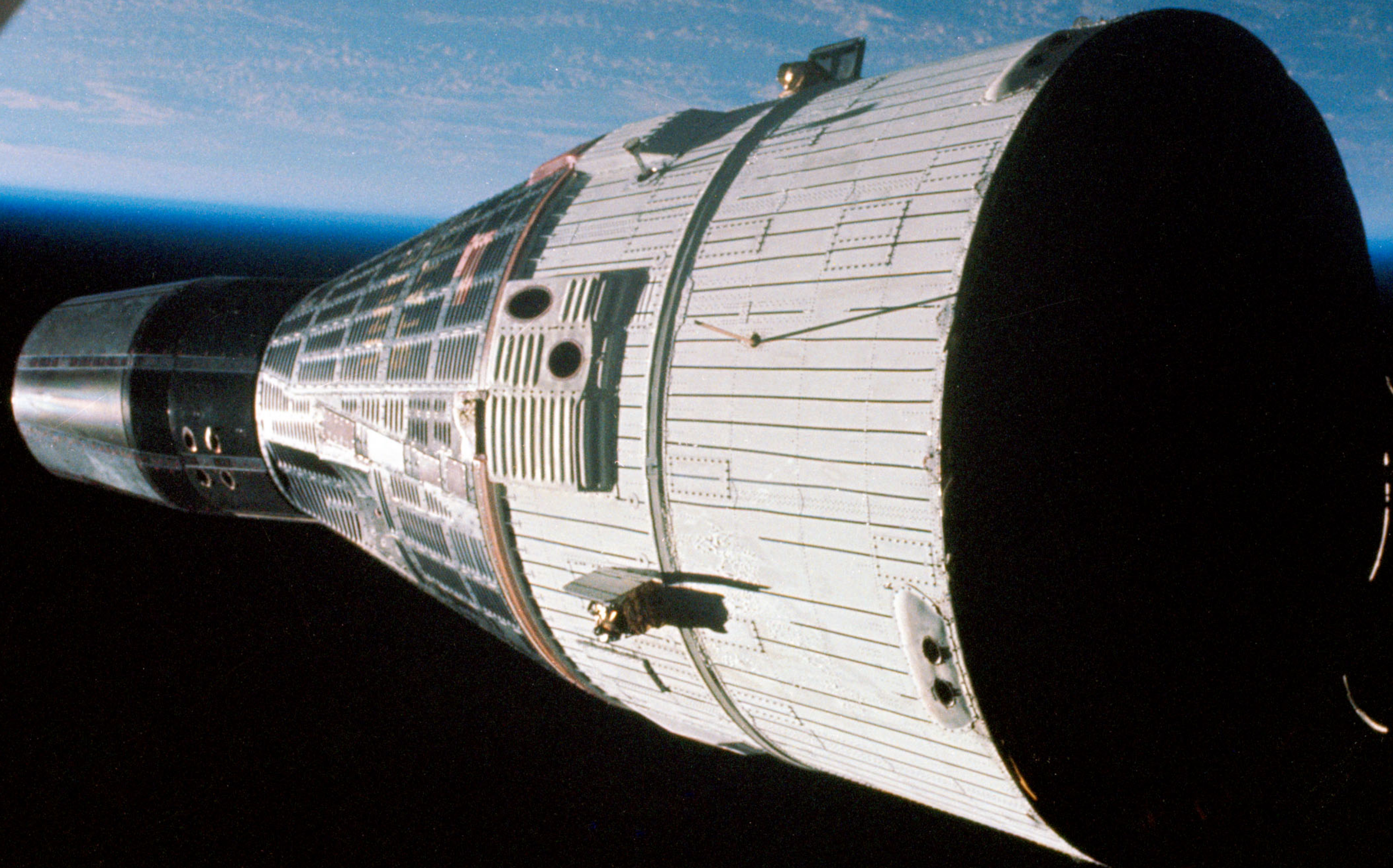
rowdyraboutw

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DANK E SCHÖN !



ROWDY.CODES/DWX-AI



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