Workshop Summary
Using Free Google Gemini Pro APIs

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Part of: ARCH Virtual Workshop Series (NIH AIM-AHEAD DICB Program)

This interactive session introduced participants to Google's Gemini Pro models, focusing on how to set up, authenticate, and integrate Gemini APIs into real-world projects. The workshop included a hands-on walkthrough using a healthcare dataset and practical Python examples for working with LLMs, NLP, and data processing.

Key Topics Covered

1. What is Gemini?

- Multimodal AI from Day One: Understands text, images, audio, video, and code.
- Released in early 2023 by Google DeepMind.
- It is designed for widespread use across Google tools like Docs, Gmail, Sheets, Colab, Chrome, and Android.

2. Gemini Model Versions

- Gemini 1.5 Pro: Supports up to 2 million tokens in a single context window—ideal for long documents, entire codebases, or full datasets.
- Gemini Flash: Lightweight, fast, and production-ready.

3. Why It Matters

- These models are free to use via Google AI Studio.
- Outperforms many peers—appears in top rankings on sites like LM Arena and ArtificialAnalysis.ai.
- Context window comparison: ChatGPT-4 = 128K tokens, Gemini 1.5 = 2M tokens.

4. Hands-On Demonstration

- Participants were guided through:
- Setting up a Google Cloud Project.
- Getting their Gemini API key via AI Studio.
- Using a dummy healthcare dataset from Kaggle.
- Running Python code to interact with Gemini APIs for generating responses, analyzing data, and building intelligent applications.

5. Explored Real-World Applications

- Chatbots and virtual assistants
- Healthcare document summarization
- Long-form document querying
- Code analysis and refactoring

- NLP-based tools for clinical or research workflows

6. Key Resources Shared

- Google Gemini Docs: https://deepmind.google/technologies/gemini/
- Gemini Applications: https://ai.google/get-started/products/
- Kaggle Healthcare Dataset
- 2M Context Window: https://ai.google.dev/gemini-api/docs/long-context
- LM Arena Leaderboard: https://lmarena.ai/
- Artificial Model Benchmarks: https://artificialanalysis.ai/
- Google Cloud Platform: https://cloud.google.com/
- Google AI Studio: https://aistudio.google.com/app/apikey
- Kaggle Dummy Dataset: https://www.kaggle.com/datasets/prasad22/healthcare-dataset/data
- Data Download Link: Download Here

7. Final Thoughts

The session concluded with a Q&A and an open invitation to stay connected with AI Navigators for personalized guidance.

“With Gemini and Google AI Studio, you can start building powerful AI tools—right now, for free.”

Need More Help?

- Daily Drop-In Office Hours: Weekdays, 10–11 AM HST
  Join Zoom | Passcode: 406166

- Weekly ARCH Workshops
  Schedule

- Schedule 1:1 Help via Help Desk
  Text Here

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