

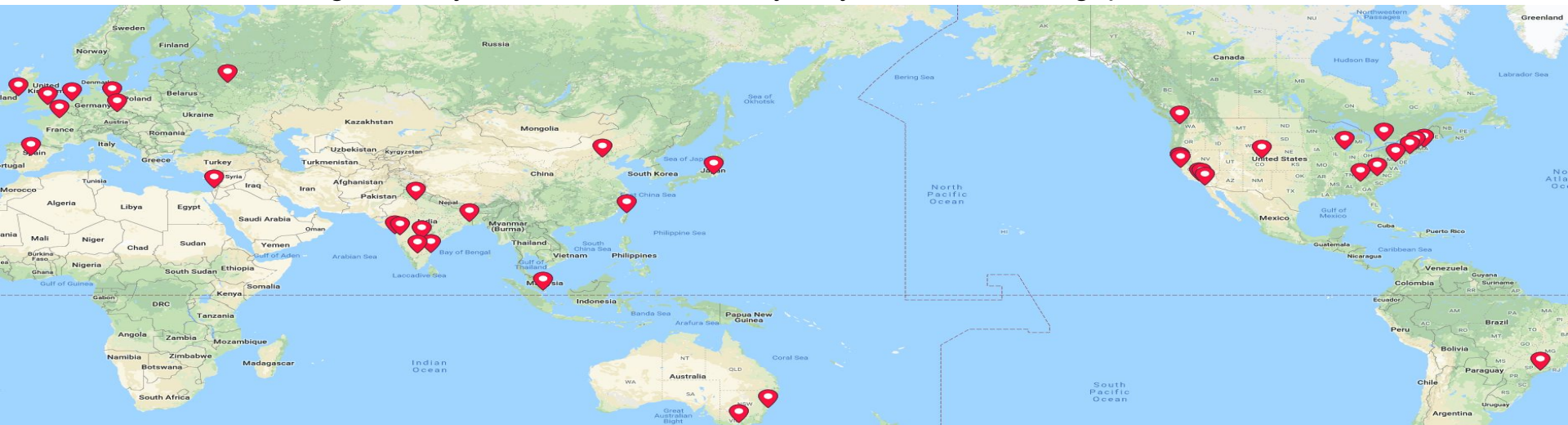
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RoadMap Contribution: Subash Nataraj
Speaker: Sam Adekunle
AI Camp Content: AI Camp London

27.12.2024



AI Immersion Workshop:
Day 1 - Introduction to LLMs

- ❖ Global AI developers community with 400,000+ AI developers in 150+ countries.
- ❖ Empower every developers to learn and practice AI from anywhere at any time.
- ❖ Local community chapters (50+ cities in 15+ countries):
 - North America: Seattle, San Francisco, NYC, Boston, Toronto, Chicago, Atlanta, Austin, 20+ cities
 - Europe: London, Paris, Berlin, Tel Aviv, Madrid, Amsterdam, Dublin, Zurich
 - APAC: Bangalore, Hyderabad, New Delhi, Sydney, Melbourne, Singapore, China





How to get involved?

- ❖ Join community builders team
- ❖ Submit topics to speak
- ❖ Sponsor the meetups (venues, food/drink, and prizes)
- ❖ Collaborate on your events
- ❖ Contact us: info@aicamp.ai



More learning events

- ❖ AI Virtual Seminar Weekly
- ❖ AI Meetup/Workshop



Sam Adekunle



David Tang



Tibor Ormosi



Subash Natarajan



Kevin Vegda

***Please reach out if, if you have ideas for partnership /
talks / demos and any suggestions 😊***

Or contact support@aicamp.ai

Program Overview - Getting started with LLM-s




What You'll Learn

Foundations → Implementation → Mastery use of LLM API-s

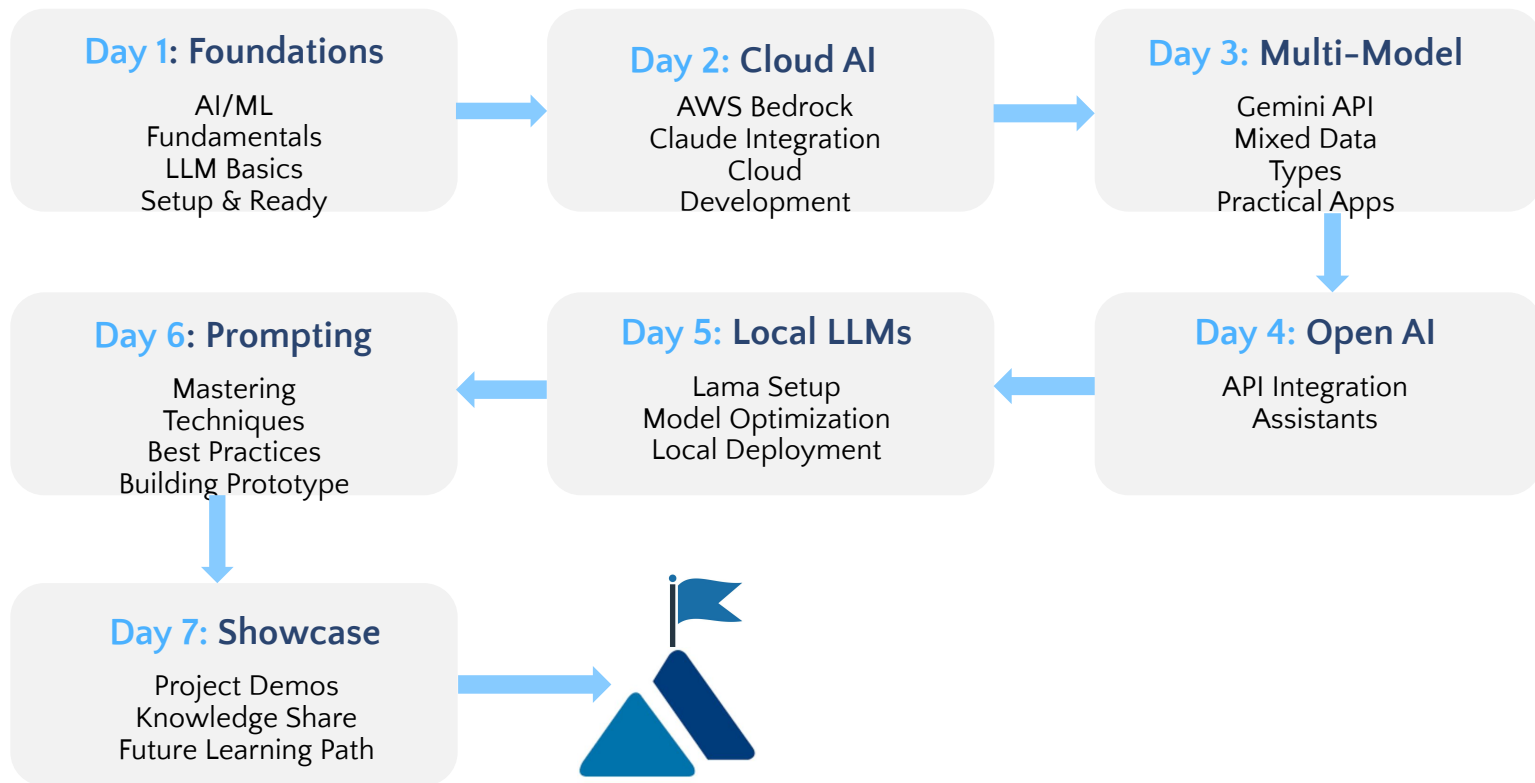
Tools Used

[Colab | Ollama | Bedrock | Gemini | OpenAI | IDX]

Format

-  Daily 30min Sessions at 6PM GMT
-  Hands-on Practice
-  Live Coding

AI Immersion RoadMap - AICamp



Housekeeping

Schedule

- Daily Sessions: 6 PM GMT
- Duration: 30 minutes
- Please arrive 5 min early

Communication

- Questions in Slack channel
- Session recordings available
- Resources shared post-session

Tools Ready

- Google Account
- Python installed
- Slack workspace joined

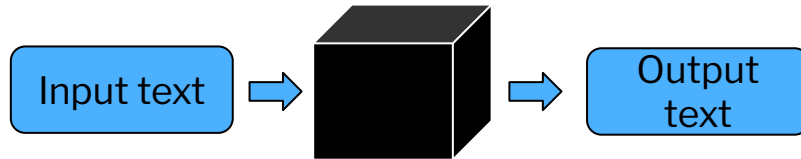
Session Format

- Live demos
- Interactive Q&A
- Hands-on practice

Overview - What are LLM-s

- Simple definition
- Evolution from traditional ML
- Input → Process → Output visualization

Black Box System Model



“We don’t need to know what happens inside”

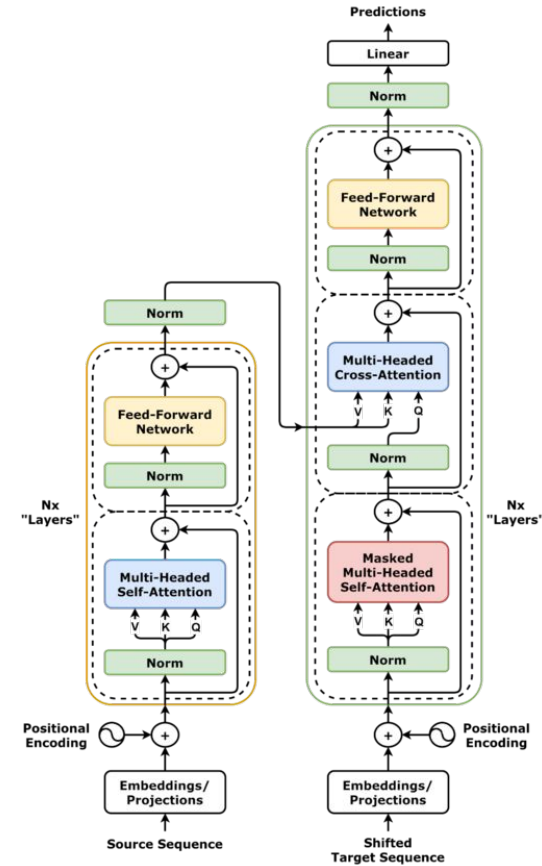


Image from
https://en.wikipedia.org/wiki/Transformer_%28deep_learning_architecture%29

LLM - Key components

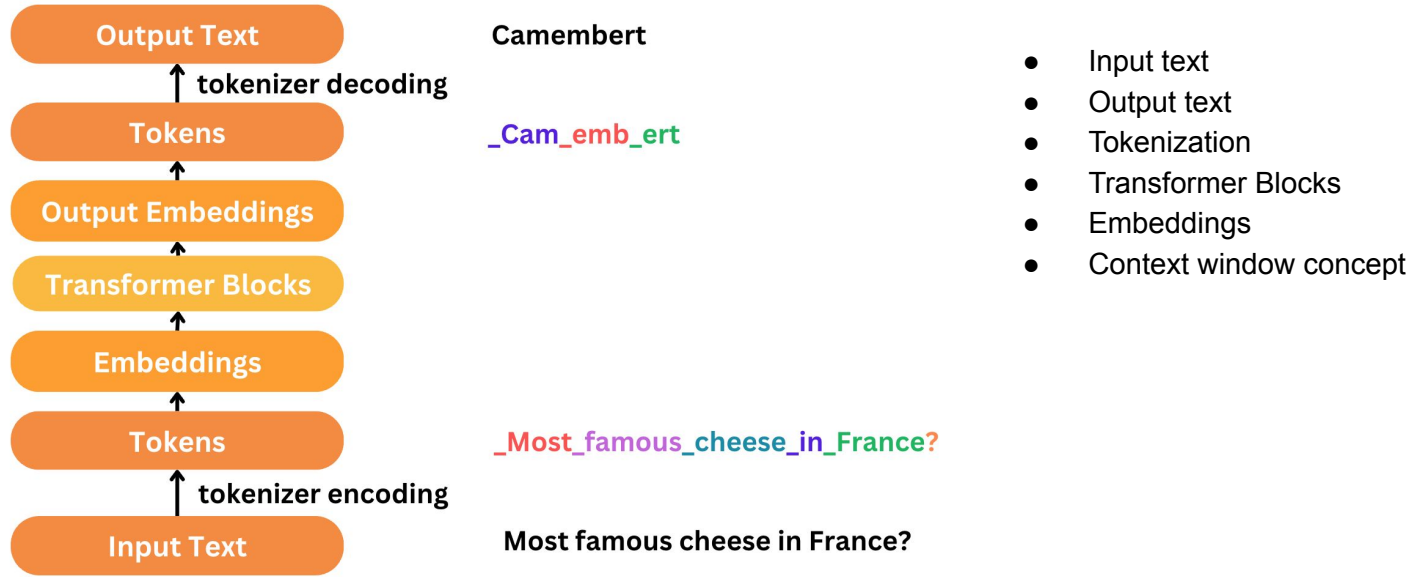


Image Ref: <https://docs.mistral.ai/guides/tokenization/>

LLM - Major Players

Cloud LLMs

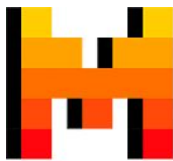
- OpenAI GPT-4/01-03
- Claude
- Google Gemini

Local/Open Source LLMs

- Llama 2
- Mistral
- Ollama

 OpenAI

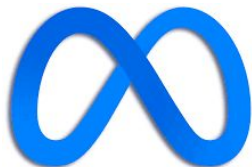
Google



MISTRAL
AI



ANTHROPIC
 Claude



Meta

Eleven
Labs



deepseek

LLM Core concepts

- **Temperature (creativity vs precision)**
- **Context length (memory)**
- **Tokens (units of text)**

LLM Capabilities and Limitations

Can Do

- **Text Analysis**
- **Code Help**
- **Content Gen**

Can't Do

- **Real-time Data**
- **True Learning**
- **Web Access**

Practical Applications

- **Code assistance**
- **Content creation**
- **Analysis tasks**
- **Real-world examples**

Cloud Development - Why Cloud IDE

Local Machine

-  Long setup time
-  Complex configuration
-  Limited resources

Cloud Platform

-  Instant start
-  Pre-configured
-  Powerful resources

Meet Google Colab

Your Cloud Lab



Free research tool



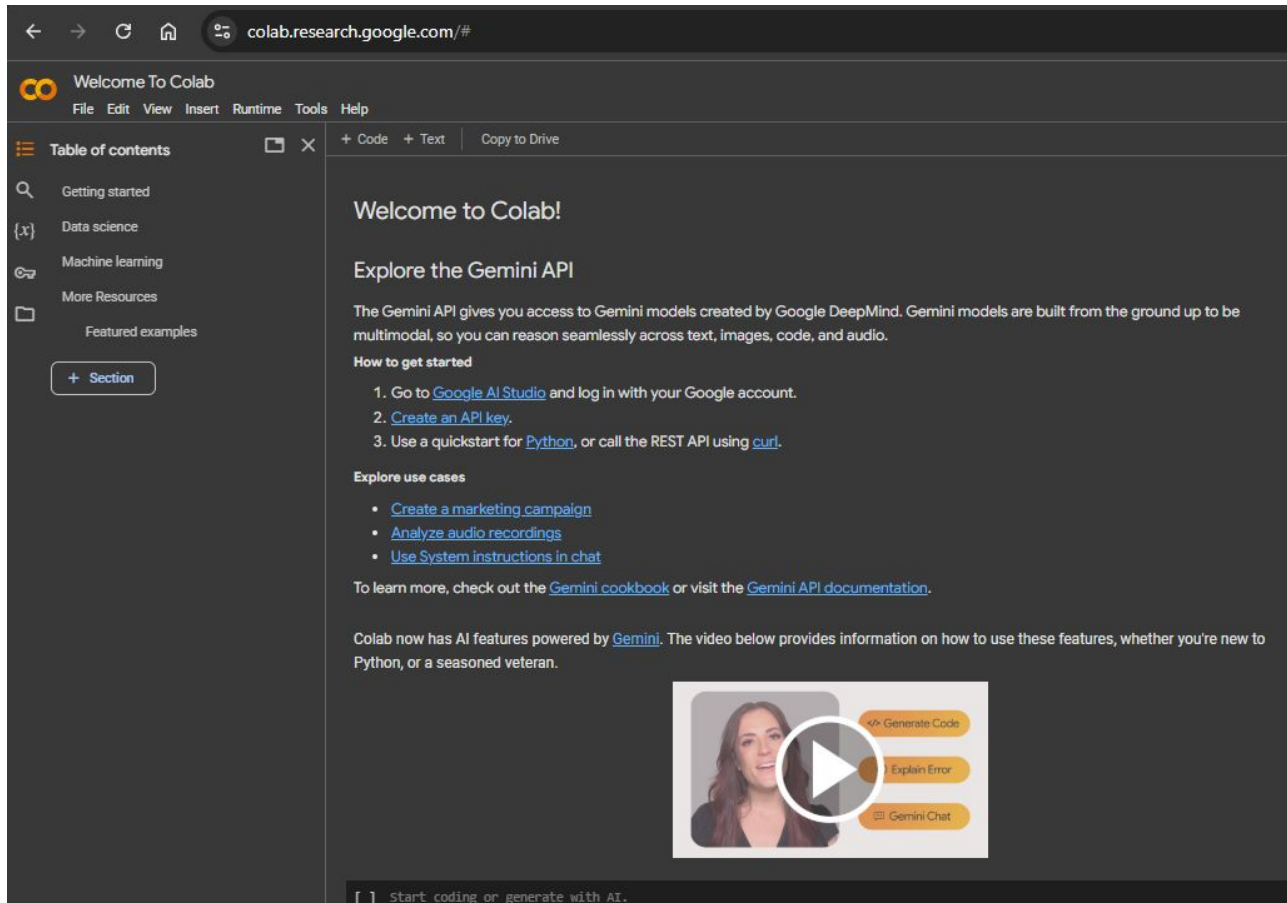
Python ready



GPU powered



Team friendly



The screenshot shows the Google Colab web interface. The browser address bar displays `colab.research.google.com/#`. The interface includes a top menu bar with options: File, Edit, View, Insert, Runtime, Tools, and Help. A left sidebar contains a 'Table of contents' with links to 'Getting started', 'Data science', 'Machine learning', 'More Resources', and 'Featured examples'. The main content area is titled 'Welcome to Colab!' and 'Explore the Gemini API'. It explains that the Gemini API provides access to models created by Google DeepMind, which are multimodal and can reason across text, images, code, and audio. A 'How to get started' section lists three steps: 1. Go to [Google AI Studio](#) and log in with your Google account. 2. [Create an API key](#). 3. Use a quickstart for [Python](#), or call the REST API using [curl](#). An 'Explore use cases' section lists: [Create a marketing campaign](#), [Analyze audio recordings](#), and [Use System instructions in chat](#). It also directs users to the [Gemini cookbook](#) or [Gemini API documentation](#) for more information. A note states that Colab now has AI features powered by [Gemini](#), and a video below provides information on how to use these features. The video thumbnail shows a woman with a play button overlay and three buttons: 'Generate Code', 'Explain Error', and 'Gemini Chat'. At the bottom, a text prompt reads: '[] Start coding or generate with AI.'

Quick Start Guide

Get Running in Minutes



Visit Colab



New notebook



Choose runtime



Start coding

<https://colab.research.google.com/>

Meet IDX

Your Cloud Workspace



VS Code in browser



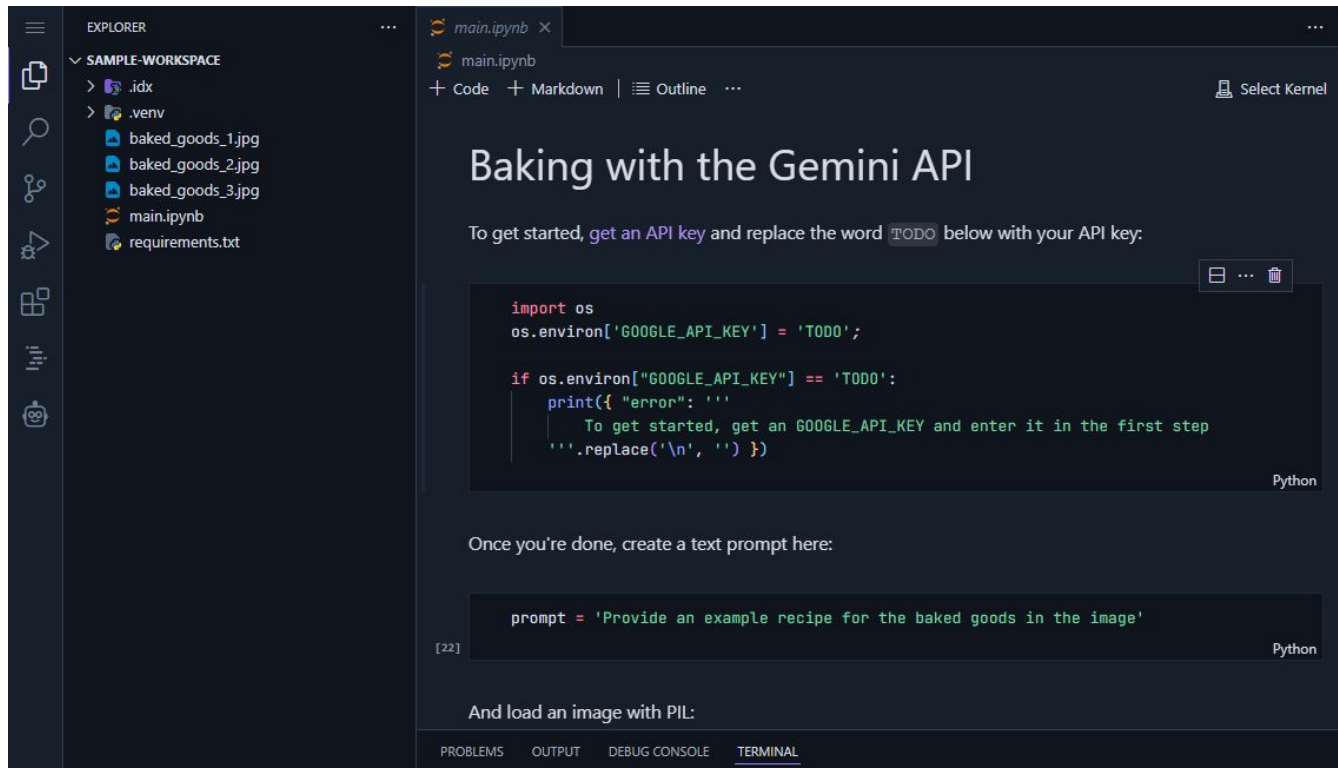
Full terminal



Git ready



Complete toolset



The screenshot displays the IDX Cloud Workspace interface. On the left is the Explorer sidebar showing a file tree for 'SAMPLE-WORKSPACE' with files: '.idx', '.venv', 'baked_goods_1.jpg', 'baked_goods_2.jpg', 'baked_goods_3.jpg', 'main.ipynb', and 'requirements.txt'. The main editor area shows a Jupyter Notebook file 'main.ipynb' with a code cell containing Python code for the Gemini API. The code includes an import for 'os', setting an environment variable 'GOOGLE_API_KEY' to 'TODO', and a conditional print statement that provides instructions on how to get an API key. Below the code cell, there is a text prompt field with the value 'Provide an example recipe for the baked goods in the image'. The interface also features a terminal at the bottom and a 'Select Kernel' button in the top right corner of the editor area.

```
import os
os.environ['GOOGLE_API_KEY'] = 'TODO';

if os.environ["GOOGLE_API_KEY"] == 'TODO':
    print({ "error": ' '
            | To get started, get an GOOGLE_API_KEY and enter it in the first step
            | ''.replace('\n', ' ') })
```

Python

Once you're done, create a text prompt here:

```
prompt = 'Provide an example recipe for the baked goods in the image'
```

Python

And load an image with PIL:

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

IDX Launch Guide

Quick Setup Steps

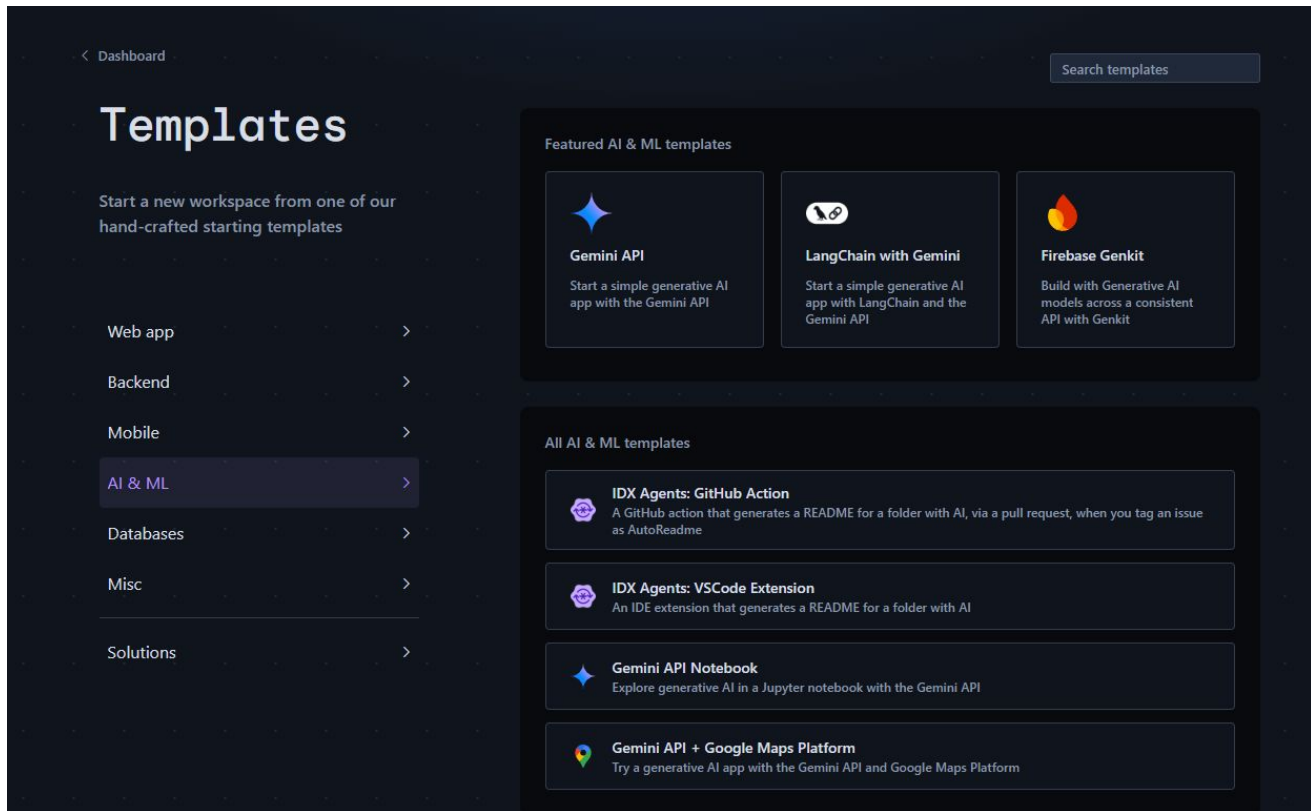
 **Access**

<https://idx.google.com/>

 **New workspace**

 **Pick your tools**

 **Start coding**



The screenshot shows the 'Templates' dashboard in a dark-themed interface. At the top left is a 'Dashboard' link. On the right is a 'Search templates' search bar. The main heading is 'Templates' with a subtitle 'Start a new workspace from one of our hand-crafted starting templates'. On the left is a vertical sidebar menu with categories: 'Web app', 'Backend', 'Mobile', 'AI & ML' (highlighted with a purple background), 'Databases', 'Misc', and 'Solutions'. The main content area is divided into two sections. The top section, 'Featured AI & ML templates', contains three cards: 'Gemini API' (with a blue star icon), 'LangChain with Gemini' (with a white 'L' icon), and 'Firebase Genkit' (with a red and yellow flame icon). The bottom section, 'All AI & ML templates', contains four cards: 'IDX Agents: GitHub Action' (with a purple GitHub icon), 'IDX Agents: VSCode Extension' (with a purple VSCode icon), 'Gemini API Notebook' (with a blue star icon), and 'Gemini API + Google Maps Platform' (with a red location pin icon).

Dashboard

Search templates

Templates

Start a new workspace from one of our hand-crafted starting templates

- Web app
- Backend
- Mobile
- AI & ML**
- Databases
- Misc
- Solutions

Featured AI & ML templates

- Gemini API**
Start a simple generative AI app with the Gemini API
- LangChain with Gemini**
Start a simple generative AI app with LangChain and the Gemini API
- Firebase Genkit**
Build with Generative AI models across a consistent API with Genkit

All AI & ML templates

- IDX Agents: GitHub Action**
A GitHub action that generates a README for a folder with AI, via a pull request, when you tag an issue as AutoReadme
- IDX Agents: VSCode Extension**
An IDE extension that generates a README for a folder with AI
- Gemini API Notebook**
Explore generative AI in a Jupyter notebook with the Gemini API
- Gemini API + Google Maps Platform**
Try a generative AI app with the Gemini API and Google Maps Platform

Let's Practice! 💪

Live Demo Time

 **Setup walkthrough**

 **Key commands**

 **Resources**

 **Q&A session [Space for live demo]**