



SQL Saturday Toronto 2023



Toronto Data Professionals Community (TDPC)



SQL Saturday (#1064)

My First Short Film Using AI



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Presenter(s)

Founders of "DataAccolade"

Nik - Shahriar Nikkhah
Technology Executive
Azure Subject Matter Expert (SME)
Enterprise Azure Data Architect
Senior IoT Consultant

Enzo - Parsa Bahrami
Senior Data Architect
Senior Tech lead
Software Engineer



Toronto, (647) 819-0177
Enzo@DataAccolade.com
pbahrami@uwaterloo.ca



Toronto, (647) 621-2242
Nik@DataAccolade.com
SNikkhah@yahoo.com



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[Toronto Data Professionals Community \(TDPC\)](#), one of the largest data professional's community in Toronto, host monthly event which offers interactive learning built by community and guided by trusted data experts.

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Agenda

- Creating Prompts
- Reading Prompts
- Creating images from Prompts
- A short film from the above

Creating prompts, images, as well as reading prompts are important steps in generating short films using AI Services.



Disclaimer

Demo examples:

- Today's example is about "Teapot"
- Cross join images/information/human/culture/objects
- Colors, Pink Dog, pink 7-Up drink
- Inaccurate information, Cat = Dog, Spellings, Fonts
- Inaccuracy images of Human/Culture/Objects



Project/Goals

1. Make a short film using AI
2. Free version **
3. On My laptop only **
4. Target Audiences
5. Simplicity / Short
6. Coding / Scripting
7. Hands-on
8. API calls
9. Replacing AI Tools (Code)
10. Future milestone (Version 2)



Target Audiences

- Students (Software, Technology, ...)
- Developers (Python, ...)
- Social media (Facebook, YouTube, ...)
- Multimedia (Small companies, Sales, ...)
- Influencers



Step-by-Step Solution

1. Generate Prompts (Texts)
2. Text-to-Speech
 - Accents
 - Frequency / Tone of voice
3. Text-to-Images
 - Animation on Images
 - Effects (Color, Shades, 3D, ...)
4. Generate Video



Best practice for AI Prompts

Clarify your goal: Achievement, Audience, Action,...

Give Clear Instruction: Outcome, Be Specific, Simple,...

Proofread your prompt: grammar, spelling, contextual, ...

Describe your goal output: Specify Output, Table, email, list ...

Include Keywords phrases: Provide Keywords or phrases, help SEO (Search engine optimization)...

Describe the audience and style: Tell AI who you are talking to, Tone, technical writer, ...

Ask for special formatting: Table format, Excel, Step-by-step, ...

Provide source material or examples: Facts, Details, Scripts, code, [sample data](#), ...

As for opinions: What do you think AI? What would you do?

Revise: Try again, optimize, Check and double check...



Sample Prompt

```
f"Please write 5 unknown and interesting facts about {story}  
make sure it is written as if it is going to be used for an advertisement.
```

```
I want to make a TikTok video from the facts and  
I want it to be appealing and interesting to everyone.
```

```
Please give your answer in the below format and do not include any additional words:
```

```
1- <the first fact>  
2- <the second fact>  
3- <the third fact>  
4- <the fourth fact>  
5- <the fifth fact>.
```

```
Then For each of the facts you gave me, write three prompts  
I can give to an AI Image generator to generate an appealing image related to the fact.  
Please write them numbered from 6 to 20 and include no additional  
word and make sure every prompt starts with Generate an image that.
```

```
Also, do not use double quotation marks in your responses."
```



Generate Prompts

1- The teapot was invented in China during the Yuan Dynasty, around 700 years ago.
6- Generate an image that shows a traditional Chinese tea ceremony.
7- Generate an image that showcases the intricate design of a Chinese teapot.
8- Generate an image that features ancient Chinese pottery techniques.

2- In England during the 17th century, women would gather and drink tea from small porcelain cups without handles.
9- Generate an image that depicts English women socializing over tea.
10 -Generate an image that highlights a beautiful set of fine porcelain tea cups.
11 -Generate an image that illustrates how milk is added to British style teas.

3-The world's largest teapot is located in Chester, West Virginia. It stands at 14 feet tall and can hold up to 150 gallons of tea.
12 -Generate an image featuring large roadside attractions across America
13 -Generate an Image showcasing West Virginia landmarks
14 -Generate another version of the world's largest objects

4-During World War II, soldiers were issued "boilerplate" aluminum teapots which doubled as helmets in case of emergency.
15 - Generate An Image Of A Military Combat Uniform And Helmet Combo With A Teapot Graphic Imposed On Top Or Beside It
16 - generate a retro poster showing US soldiers holding their helmet-teapots serving each other hot drinks at camp
17 - generate An Image Of Historical US army regalia featuring "Tea Pot Helmets"

5-In Morocco and some Middle Eastern countries , mint leaves are often added to green tea before pouring into glasses.
18 - generate An Image That Showcases Tea Leaves Expanding Rapidly To Release Fresh Flavors And Scents Like Gunpowder
19 - generate images featuring Moroccan ceramic designs used for serving traditional green mint teas
20-generate Images That Highlight Traditional Middle Eastern Green Tea Drinking Customs .



Text-To-Speech

```
payload = {
    "text": input_text,
    "voice": "lance",
    "quality": "medium",
    "output_format": "mp3",
    "speed": 1,
    "sample_rate": 24000
}
headers = {
    "accept": "text/event-stream",
    "content-type": "application/json",
    "AUTHORIZATION": "80bae7412814481da11ed81d06c14e2a",
    "X-USER-ID": "1TUfjtM1JLcGlwoscp8kT05qGLg2"
}
```

```
# Download the Audio file using the returned url
audio = requests.get(audio_url, allow_redirects=True)
print(audio.content)

# Path of the audio file
file_path = f"{story}/Audios/{file_name}.mp3"
# Check if the folder has been created or not
os.makedirs(os.path.dirname(file_path), exist_ok=True)
# Write the audio file and save it
open(file_path, 'wb').write(audio.content)
```

Challenges :

- Filler linguistics, Crutches (um, oo, ...)
- Delays / Overlap / Pause
- Missing end of sentences.



Text-To-Image

```
payload = {  
    "model": "absolutereality_V16.safetensors [37db0fc3]",  
    "upscale": True,  
    "aspect_ratio": "portrait",  
    # Negative prompt which contains the characteristics which images should not contain  
    "negative_prompt": "badly drawn",  
    # The given prompt to the image generator AI  
    "prompt": input_prompt + "", realistic, detailed, dark background""  
}
```

```
# Check if the image has successfully been created  
assert(json.loads(response.text)["status"] == "succeeded")  
# Get the url of the uploaded image  
image_url = json.loads(response.text)["imageUrl"]  
  
image = requests.get(image_url, allow_redirects=True)  
  
# Path of the image  
file_path = f"{story}/Images/{file_name}.png"  
# Check if the Images folder has been created  
os.makedirs(os.path.dirname(file_path), exist_ok=True)  
# Save the image  
open(file_path, 'wb').write(image.content)
```

Challenges :

- 6 finger hands, fingernails, Text/Spelling.
- Negative prompt.
- Image delay, status == "generating" or "queued".



Text-To-Image

<https://docs.prodia.com/reference/generate>

prodia

Get My API Key Play Guides

v1.3.0 Guides <> API Reference

JUMP TO

PRODIA API

Introduction

Getting Started

SD 1.X Image Generation

Create a generation POST

Transform an existing image POST

Inpaint an existing image POST

Create a Controlnet generation POST

SDXL Image Generation

Image Upscaling

Model/Checkpoint Information

Sampler Information

Lora Information

Job Information

Powered by readme

Create a generation

POST https://api.prodia.com/v1/sd/generate

Use this endpoint to start generating an image on Pr

LOG IN TO SEE FULL REQUEST HISTORY

TIME STATUS USER AGENT

Make a request to see his

0 Requests This Month

BODY PARAMS

model string
Model Name

prompt string required
Image Prompt

negative_prompt string
Negative Image Prompt

SEE ALL REQUESTS →

absolutereality_V1

my prompt

my negative prom

25

7

INSTALLATION

\$ python -m pip install requests

REQUEST

EXAMPLES ▾

2

3 url = "https://api.prodia.com/v1/sd/generate"

4

5 payload = {

6 "model": "absolutereality_V16.safetensors",

7 "prompt": "my prompt",

8 "negative_prompt": "my negative prompt",

9 "upscale": True,

10 "aspect_ratio": "landscape"

11 }

12 headers = {

13 "accept": "application/json",

Try It!

It's all about data

Generate Video

Aligning Images, voices, and duration.

- **Solution A:** Replicate images and concatenate them in accordance with the Audio's length.
- **Solution B:** Apply motion effect to Images using AI API.
- **Solution C:** Utilize movie creator AI API.



Add/Replace API Services

- Chat GPT -----> Google Bard
- Play.ht -----> Google TTS (Text-To-Speech AI)
- Midjourney AI -----> Stable Diffusion

- Replace all with one AI tool (Prompt to film)

Challenges :

- API returns



Optimal Design

- Parameterize your notebook cells.
 - Check for new and better API.
 - Consistency in API return formats, Cast API return (JSON, Binary).
 - Use a paid version of the AI service.
 - Define a real scenario project.
 - Create Validation Tools, (Capture Inappropriate content/images, Historical/Cultural accuracy).
 - Configuration tables, Log the data, Train your AI (Very Advance)
 - Run stats and reports on returns.
-
- Test, Test, Test.



How to run the python notebook

- Open file "010 Generate AI Scenario.ipynb"
- Modify the variable "story"
- Run all
- Open file "020 Merge AI Outputs.ipynb"
- Modify the variable "story"
- Run all

- To rerun delete the main root folder.



Demo examples

Teapot

Computer

Racing Car



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Thank you for your time



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