

A top-down view of a dark blue surface covered with numerous small, three-dimensional objects. These objects include various tools like wrenches, screwdrivers, and a hammer; a green hard hat; a silver camera; a blue mug; a yellow mug; a small figure of a person in a hard hat; a certificate with the word 'EXHIBIT' at the top; and many other geometric and organic shapes in shades of brown, green, and blue.

# AI ART+CTE

Getting Started with Generative Art

# Jack Powers

INTERNATIONAL INFORMATICS INSTITUTE

1975

Phototypesetting  
Word Processing  
Computer Composition

1980

Pagination  
Digital Printing

1985

Computer Graphics  
Desktop Publishing  
Digital Photography  
Photoshop

1995

Multimedia CD-ROMs

2000

World Wide Web  
Digital Advertising  
Electronic Commerce  
Pervasive TV

2005

Artificial Intelligence  
Internet of Things

2010

Mobile Computing  
Social Media

2020

Desktop Video  
Augmented Reality  
Future of Work

2023

Generative AI



# AN AI TIMELINE

THE LAST DOZEN YEARS OF RAPID REVOLUTION

**1956** Dartmouth Conference  
Symbolic, Expert Systems  
Artificial Neural Networks

**1974-1980 First AI Winter**  
Backpropagation

**1987-1993 Second AI Winter**  
Semantic Web  
Deep Learning  
DeepBlue v Kasperov  
Nvidia GPUs  
GOF AI

**2011**

Connectionist  
IBM's Watson v *Jeopardy*  
ImageNet Challenge  
Siri, Cortana, Google Now  
DeepMind AlphaGo v Go

**2015**

OpenAI Foundation  
GitHub Copilot  
Transformers

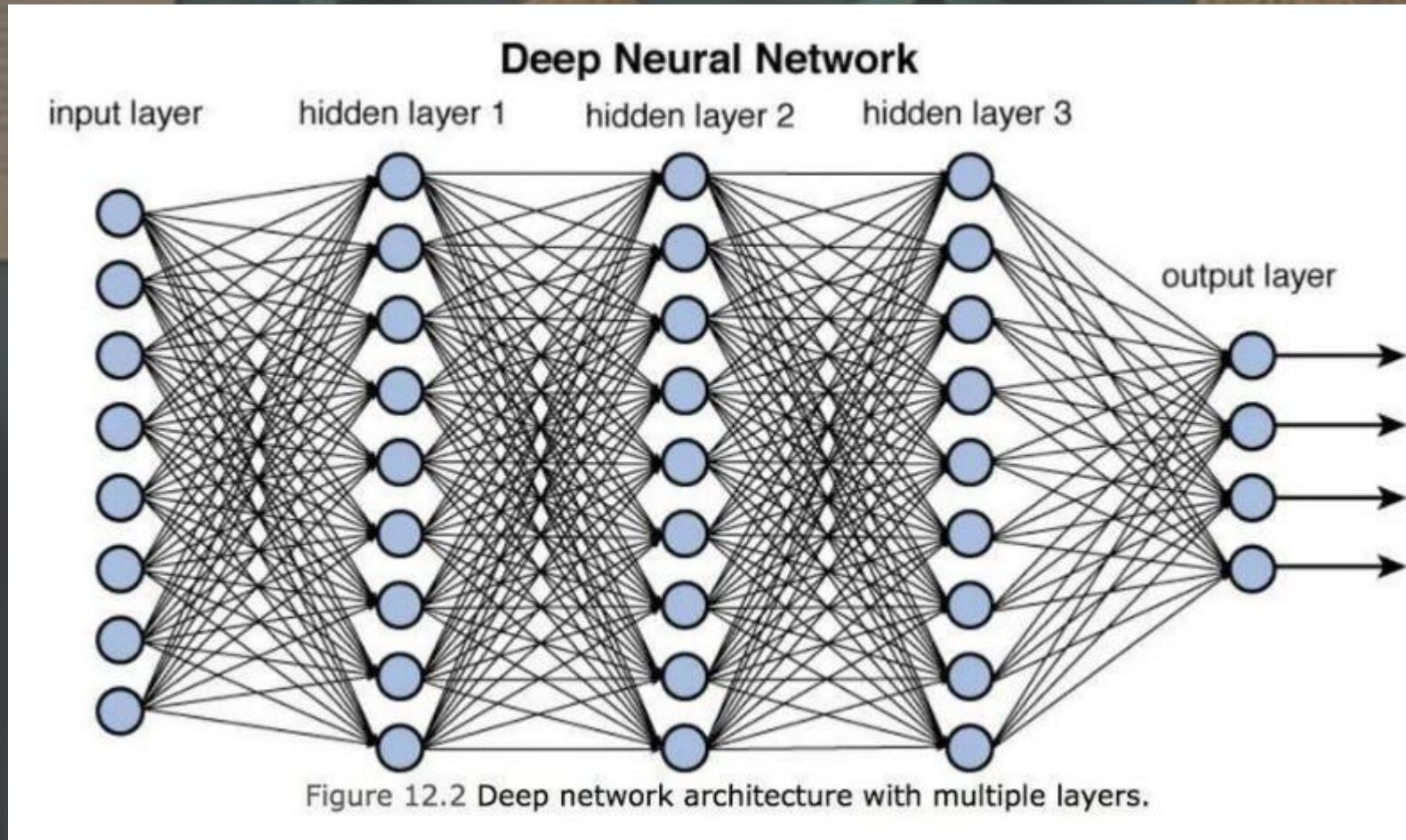
**2022**

OpenAI Dalle 2  
Stable Diffusion  
Midjourney  
ChatGPT  
Microsoft 365 Copilot  
RunwayML Video

# EASY FOR PEOPLE, HARD FOR COMPUTERS

# EASY FOR COMPUTERS, HARD FOR PEOPLE

MORAVEC'S PARADOX



GPT-3

17 GB of data  
~\$4 million of  
computing time

GPT-4

45 GB of data  
>\$200 million of  
computing time



# LARGE LANGUAGE MODELS LIKE GPT

DISTILLING BIG DATA INTO USEFUL FORM

The Washington Post  
Democracy Dies in Silence

## The websites in Google's C4 dataset

Search for a website

RANK	DOMAIN	CATEGORY
1	patents.google.com	Law & Government
2	wikipedia.org	News
3	scribd.com	News
4	nytimes.com	News
5	journals.plos.org	Science
6	latimes.com	News
7	theguardian.com	News
8	forbes.com	News
9	huffpost.com	News
10	patents.com	Law & Government
11	washingtonpost.com	News
12	coursera.org	Jobs

reddit · Datasets at Hugging Face

huggingface.co/datasets/reddit

Language Creators: crowdsourced Annotations Creators: no-annotation Source Datasets: original Tags: reddit-posts-summarization

License: cc-by-4.0

Dataset card Files Community 4

**Dataset Preview** [Go to dataset viewer](#)

The dataset preview is not available for this split.

### Dataset Card for Reddit Webis-TLDR-17

#### Dataset Summary

This corpus contains preprocessed posts from the Reddit dataset (Webis-TLDR-17). The dataset consists of 3,848,330 posts with an average length of 270 words for content, and 28 words for the summary.

Features includes strings: author, body, normalizedBody, content, summary, subreddit, subreddit\_id. Content is used as document and summary is used as summary.

Downloads last month 1,194

[Use in dataset library](#)

[Edit dataset card](#)

[Evaluate models](#)

[HF Leaderboard](#)

Homepage: [webis.de](#)

Repository: [github.com](#)

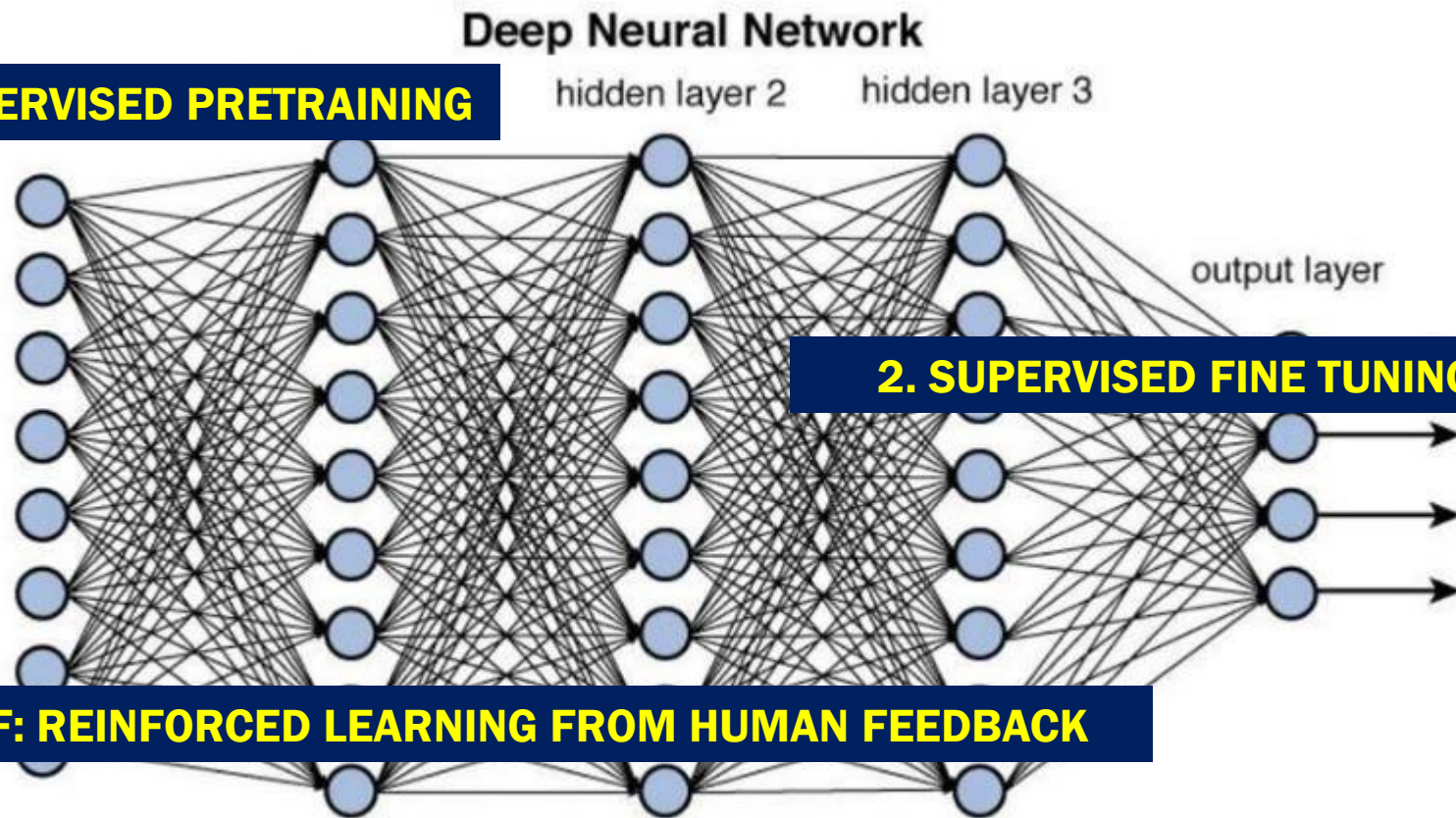
Paper:

# EASY FOR PEOPLE, HARD FOR COMPUTERS

# EASY FOR COMPUTERS, HARD FOR PEOPLE

MORAVEC'S PARADOX

## 1. UNSUPERVISED PRETRAINING



## 2. SUPERVISED FINE TUNING

## 3. RLHF: REINFORCED LEARNING FROM HUMAN FEEDBACK

Figure 12.2 Deep network architecture with multiple layers.

LARGE LANGUAGE  
MODELS

OpenAI's GPT-4

Google's Bard

Meta's LLaMA

Anthropic's Claude



# EASY FOR PEOPLE, HARD FOR COMPUTERS

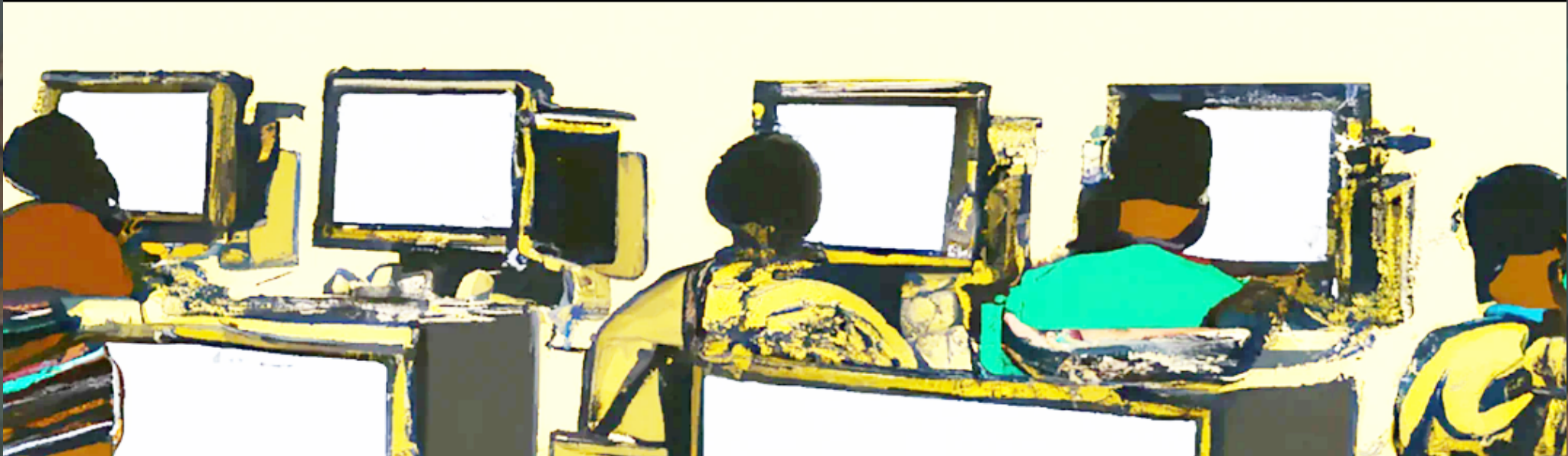
MORAVEC'S PARADOX



TIME

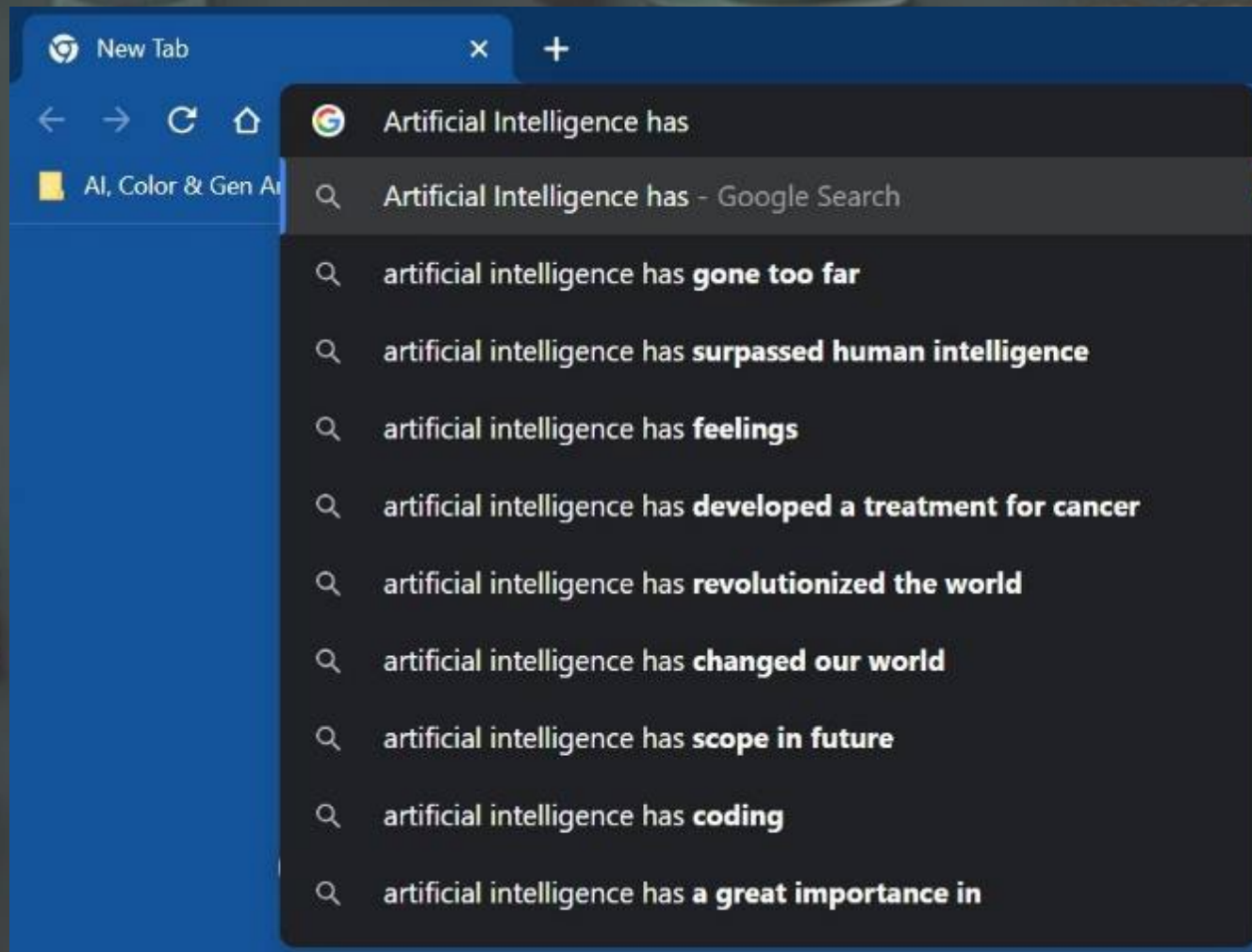
BUSINESS • TECHNOLOGY

Exclusive: OpenAI Used Kenyan Workers on Less Than \$2 Per Hour to Make ChatGPT Less Toxic



# LARGE LANGUAGE MODELS LIKE GPT

PICKING THE NEXT MOST LIKELY WORD





# LARGE LANGUAGE MODELS LIKE GPT

## PICKING THE NEXT MOST LIKELY WORD



Write a sonnet in iambic pentameter extolling Career & Technical Education.



Upon the forge of life, where futures gleam,  
A choice presents itself in many forms;  
Career and Technical, a path unseen,  
To guide the way through ever-changing storms.

In learning's haven, practical and skilled,  
The eager minds embrace their chosen trade;  
With tools and knowledge, destinies fulfilled,  
Foundation laid for futures unafraid.

The noble artisan, with pride and care,  
Shall mold a world of p  
In high demand, their skills command respect

Regenerate response



Send a message.



ChatGPT may produce inaccurate information about people, places, or facts. [ChatGPT Mar 23 Version](#)

# IT'S MORE THAN JUST CHAT

TEXT IS JUST THE BEGINNING



Technology

1 minute read · May 1, 2023 5:35 PM EDT · Last Updated 8 days ago

## IBM to pause hiring in plan to replace 7,800 jobs with AI, Bloomberg reports



Resume  
Builder

Resume Builder App

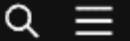
Resume Examples

Cover Letter Examples

9 in 10 companies that are currently hiring want workers with ChatGPT experience

Updated: April 17, 2023

InsideHook



## ChatGPT Is Now a Published Author of Over 200 Books on Amazon

The language model is credited as the writer on several titles, including children's books

Littler

New York City Adopts Final Regulations on Use of AI in Hiring and Promotion, Extends Enforcement Date to July 5, 2023

By Jim Paretti, Niloy Ray, Eli Freedberg, and Ellie McPike on April 13, 2023



NEW YORK POST

SEX & RELATIONSHIPS

## I fell in love with an AI chatbot — she rejected me sexually

By Brooke Steinberg

April 3, 2023 | 9:11am | Updated

*'The Godfather of A.I.' Leaves Google and Warns of Danger Ahead*



# GENERATIVE ART

LARGE LANGUAGE MODEL PLUS TAGGED IMAGE DATASETS

ImageNet: 14 million tagged images



mammal → placental → carnivore → canine → dog → working dog → husky



vehicle → craft → watercraft → sailing vessel → sailboat → trimaran



# GENERATIVE ART

TEXT TO IMAGE AND PROMPT ENGINEERING

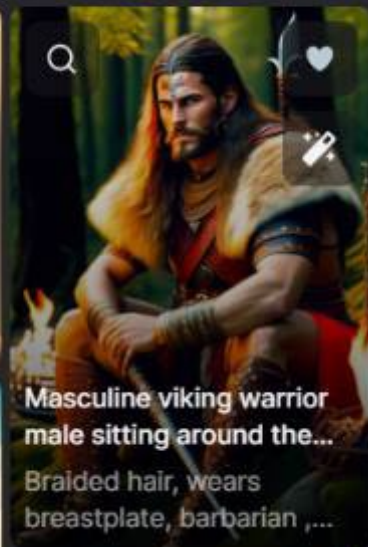


*Astronaut playing basketball with cats in space*



*Realistic detailed face portrait  
of a handsome futuristic viking  
warrior in alien cyberpunk armor  
by  
**alphonse mucha, ayami  
kojima, amano, greg  
hildebrandt, and mark brooks,**  
male, masculine, art nouveau,  
cyberpunk, neo - gothic, gothic,  
character concept design*







# GENERATIVE ART

TEXT TO IMAGE



Artist's studio overlooking Brooklyn, interior, highly detailed, digital painting



# GENERATIVE ART

FINE ART, COMMERCIAL ART



Théâtre D'Opéra Spatial by Jason M. Allen

2023  
**ANNUAL  
CITYWIDE  
GRAPHIC ARTS  
COMPETITION**  
SPRING FINALS

2023 COMPETITION  
SCHEDULE

- ✓ April 3, 2023  
Rubrics posted. Local high school selections begin.
- May 3  
Deadline for on-line submission of T-Shirt Competition entries
- May 15  
Deadline for teachers' submissions of Finalists
- May 19  
Roster of Finalists posted on this site.
- Friday, June 2, 2023  
Citywide Finals at CityTech in Brooklyn
- June 18  
Competition winners posted on this site.

**HOW TO  
SUBMIT ENTRIES**

**ANNUAL NEW YORK  
CITYWIDE GRAPHIC  
ARTS COMPETITION**

**CLICK TO DONATE  
\$100**

Via, Mastercard, AmEx, PayPal

[Click here to donate a different amount](#)

This Spring, graphic communications students from high schools all over New York City will come together at a college in Brooklyn to test their skills in the Finals of the twenty-second Annual Citywide Graphic Arts Competition. Seven competition categories showcase the talents of the students and the depth of their schools' media and design education programs. Teachers select Finalist competitors in up to seven categories:

 Graphic Design	 Digital Illustration
 Web Site Design	 Digital Photography
 Package Design	 Student Filmmakers
 Digital Video Production	

In the Finals at the CUNY College of Technology (CityTech), competitors are assigned new work that they must produce entirely on-site within the four-hour competition time limit.

**T-SHIRT CONTEST**

Souvenir T-Shirt  
Student Design  
Competition

 Design a memorable T-Shirt to be given to the attendees at the 2023 Finals

[See the T-Shirt Competition Rules](#)

**ENTRY DEADLINE: MAY 3**

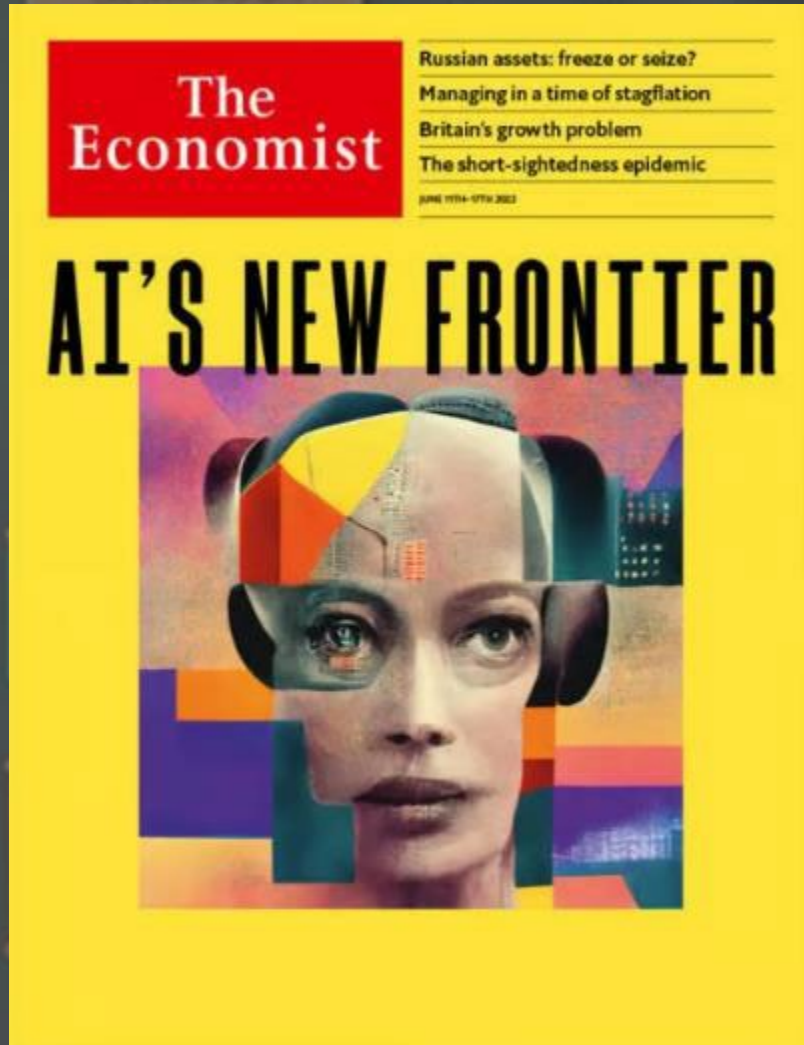
The Citywide Graphic Arts Competition is supported by these New York graphic communications organizations:

 NEW YORK CITY COLLEGE OF TECHNOLOGY <b>CITYTECH</b> BRIDGE THE TECHNOLOGY-INDUSTRIAL GAP	 <b>COMMUNICATION DESIGN</b>
 <b>UFT sappi</b>	 <b>KONICA MINOLTA</b>
 <b>gcsf</b> Graphic Communications Students Federation of New York	 <b>Printing NEWS</b>
 <b>CTEcouncil.org</b>	 <b>NYC</b> Department of Education



# GENERATIVE ART

## GRAPHIC DESIGN





# GENERATIVE ART

## PHOTOGRAPHY





# GENERATIVE ART

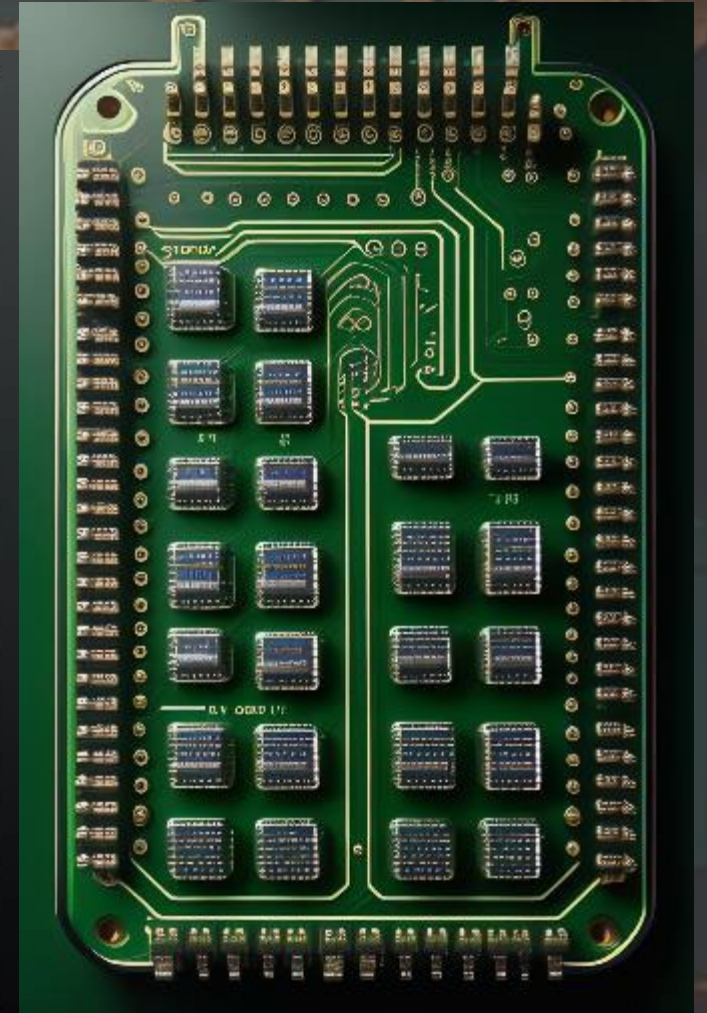
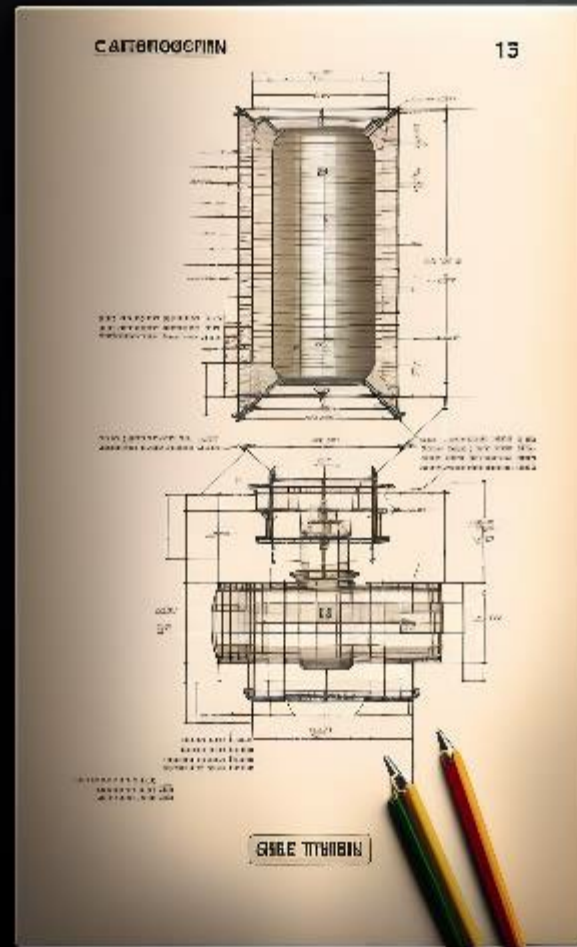
## PACKAGE DESIGN





# GENERATIVE ART

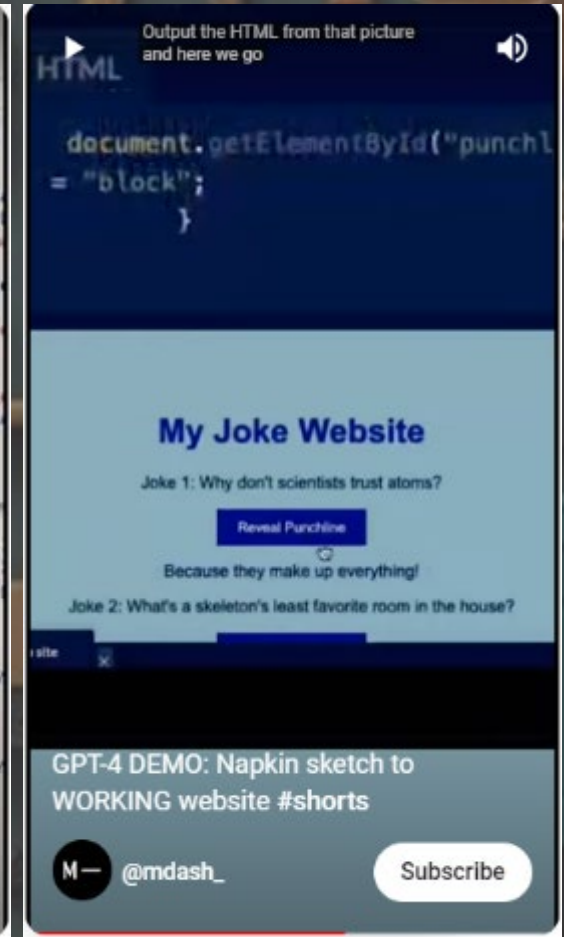
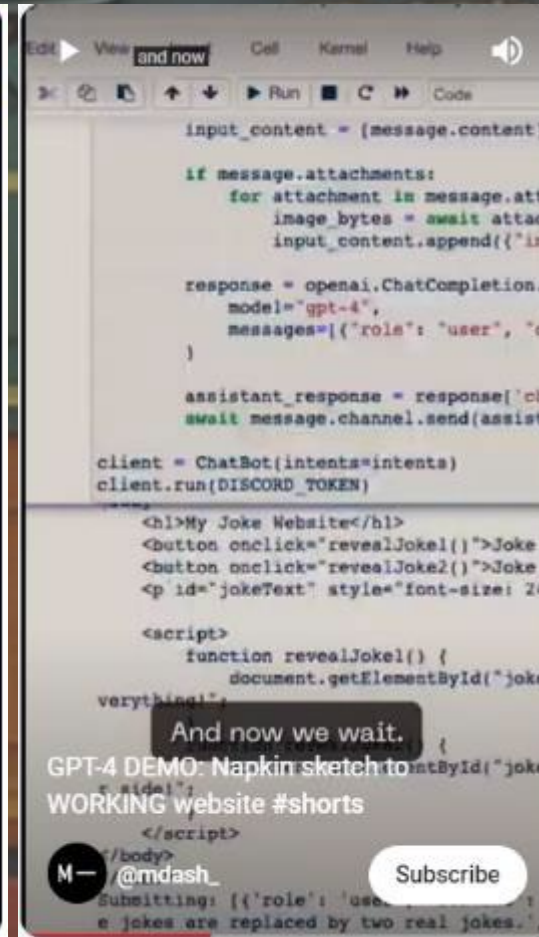
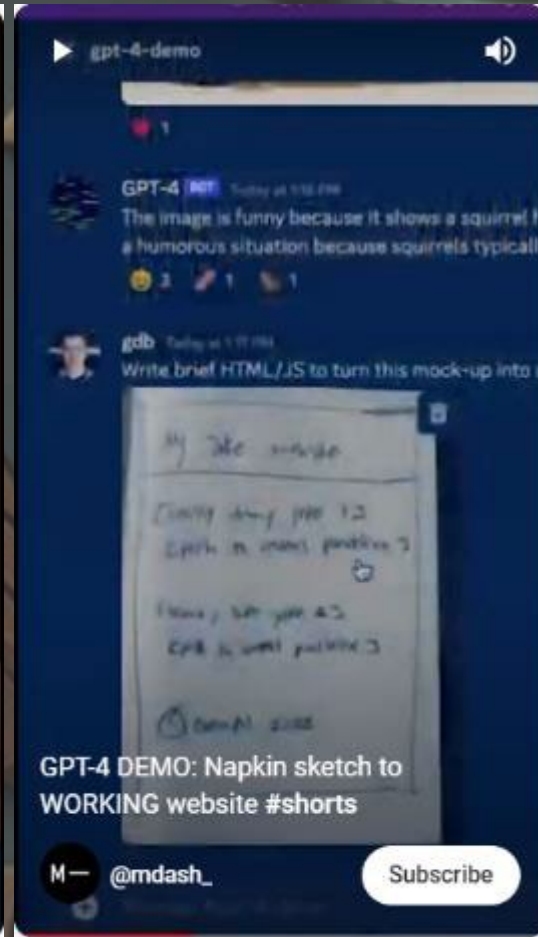
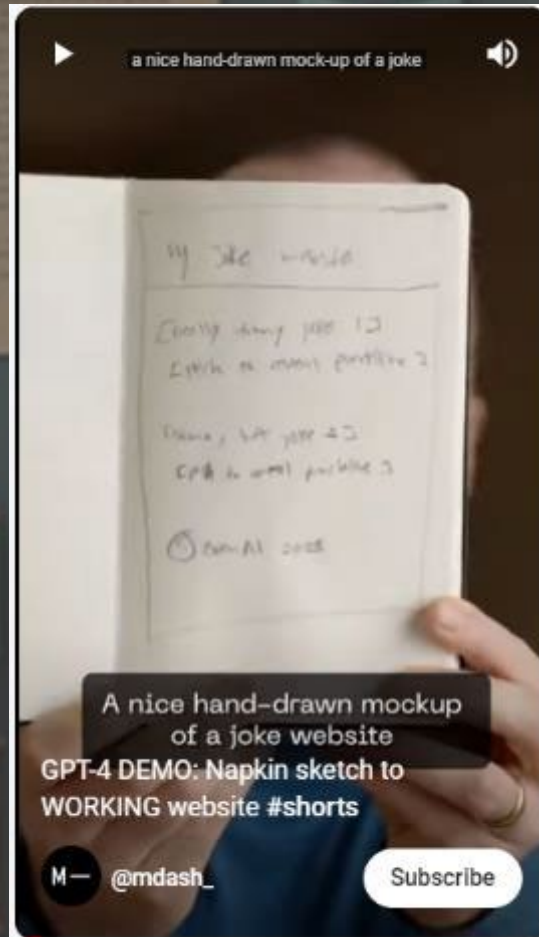
## ILLUSTRATION





# GENERATIVE ART

## WEB DESIGN





# GENERATIVE ART

VIDEO PRODUCTION

## AI ART + CTE

Artificial Intelligence,  
Generative Art and  
Career & Technical Education

January 2023

Jack Powers

INSTITUTE FOR CAREER &  
TECHNICAL EDUCATION  
PROFESSIONAL DEVELOPMENT



### Avatars 177



Billie

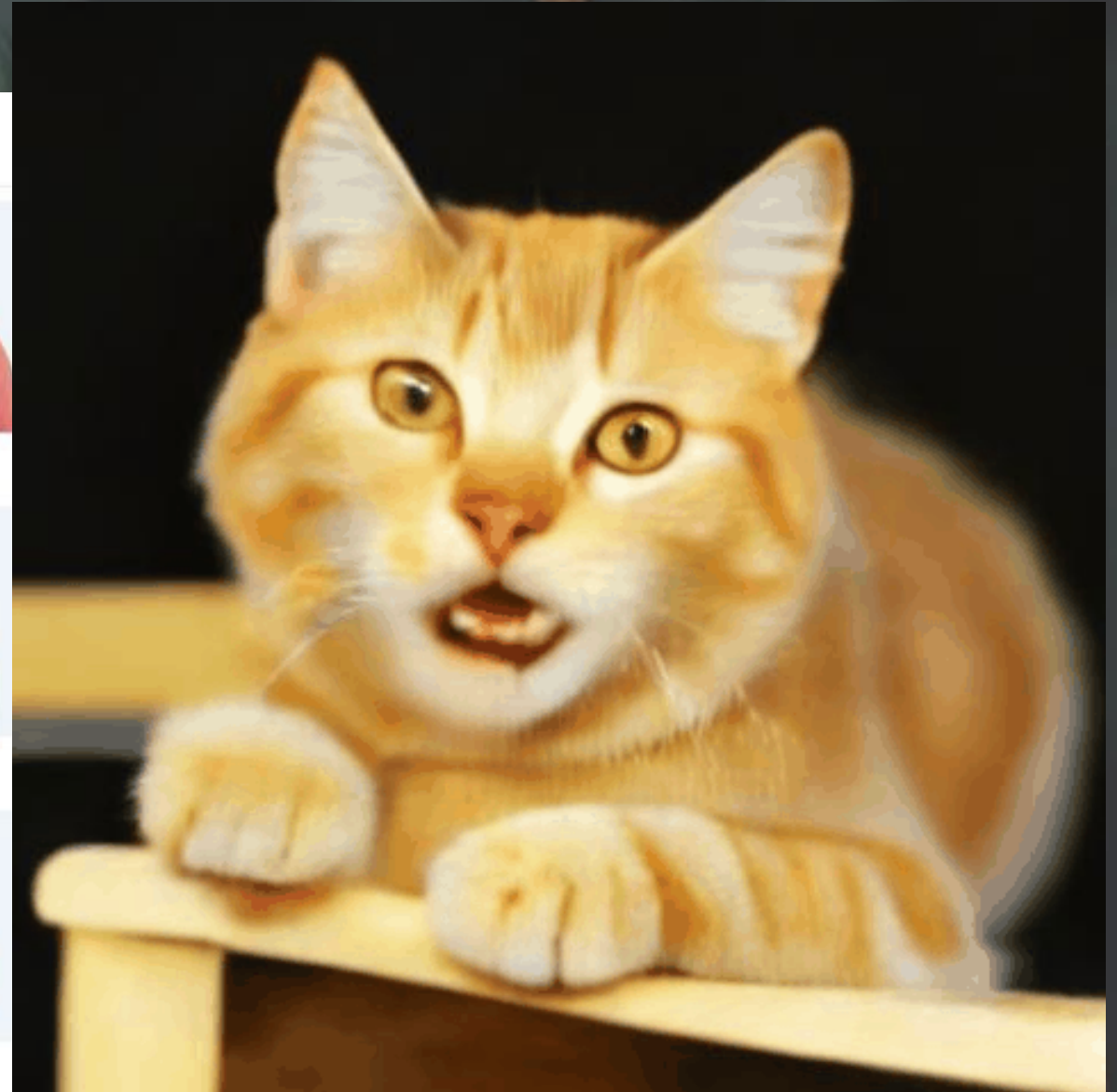


Colette



Daphne


“A fat cat meowing”



# GENERATIVE ART

FILMMAKING



 Jasper [Features](#) [Company](#) [Support](#) [Pricing](#) [Business](#) [Login](#) [Try Free](#)

MEET JASPER

## Create amazing video scripts 10X faster with AI.

Jasper is the AI Content Platform that helps you and your team break through creative blocks to create amazing, original content 10X faster.

[Start For Free](#) [Get A Demo](#)

THE WORLD'S MOST ADVANCED

# AI MUSIC GENERATOR

Soundful empowers creators to generate royalty free tracks at the click of a button. The quality of Soundful music is so rich, you won't believe it was made with



## IMAGE INTELLIGENCE



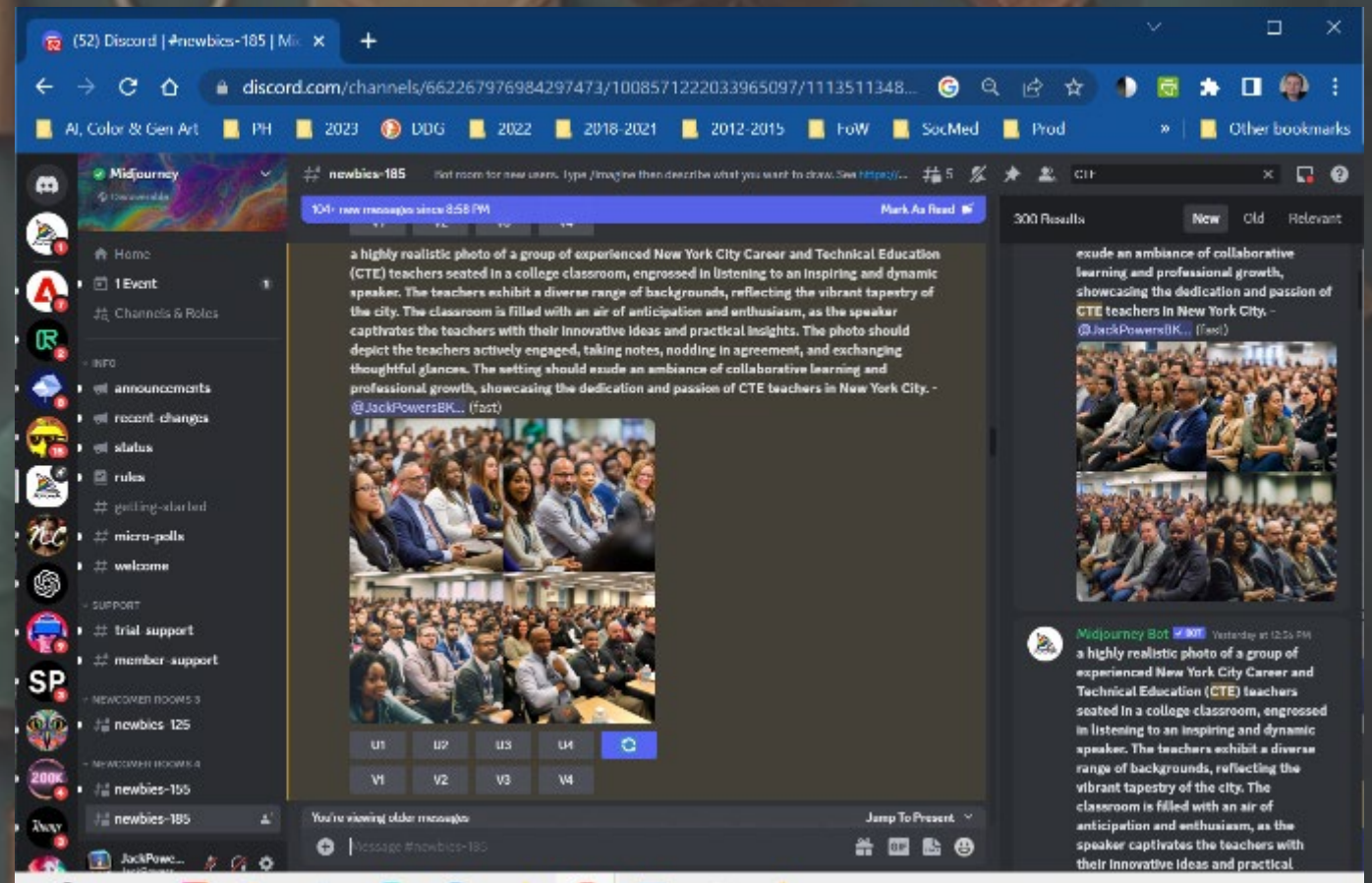
# GENERATIVE ART

IMAGE INTELLIGENCE





# KEY PLAYERS





# GENERATIVE ART

TEXT TO IMAGE AND PROMPT ENGINEERING



*Astronaut playing basketball with cats in space*



*Realistic detailed face portrait  
of a handsome futuristic viking  
warrior in alien cyberpunk armor  
by  
**alphonse mucha, ayami  
kojima, amano, greg  
hildebrandt, and mark brooks,**  
male, masculine, art nouveau,  
cyberpunk, neo - gothic, gothic,  
character concept design*



# GENERATIVE ART

## GETTING ART PROMPTS FROM GPT4



DALL-E

History

Collections

Edit the detailed description

Surprise me

Upload



Generate a highly realistic photo of a group of experienced New York City Career and Technical Education (CTE) teachers seated in a c

**Generate**





# GENERATIVE ART

IMAGE-TO-IMAGE + TEXT PROMPTS

Input images



A [V] vase buried in the sands



Two [V] vases on a table



Milk poured into a [V] vase



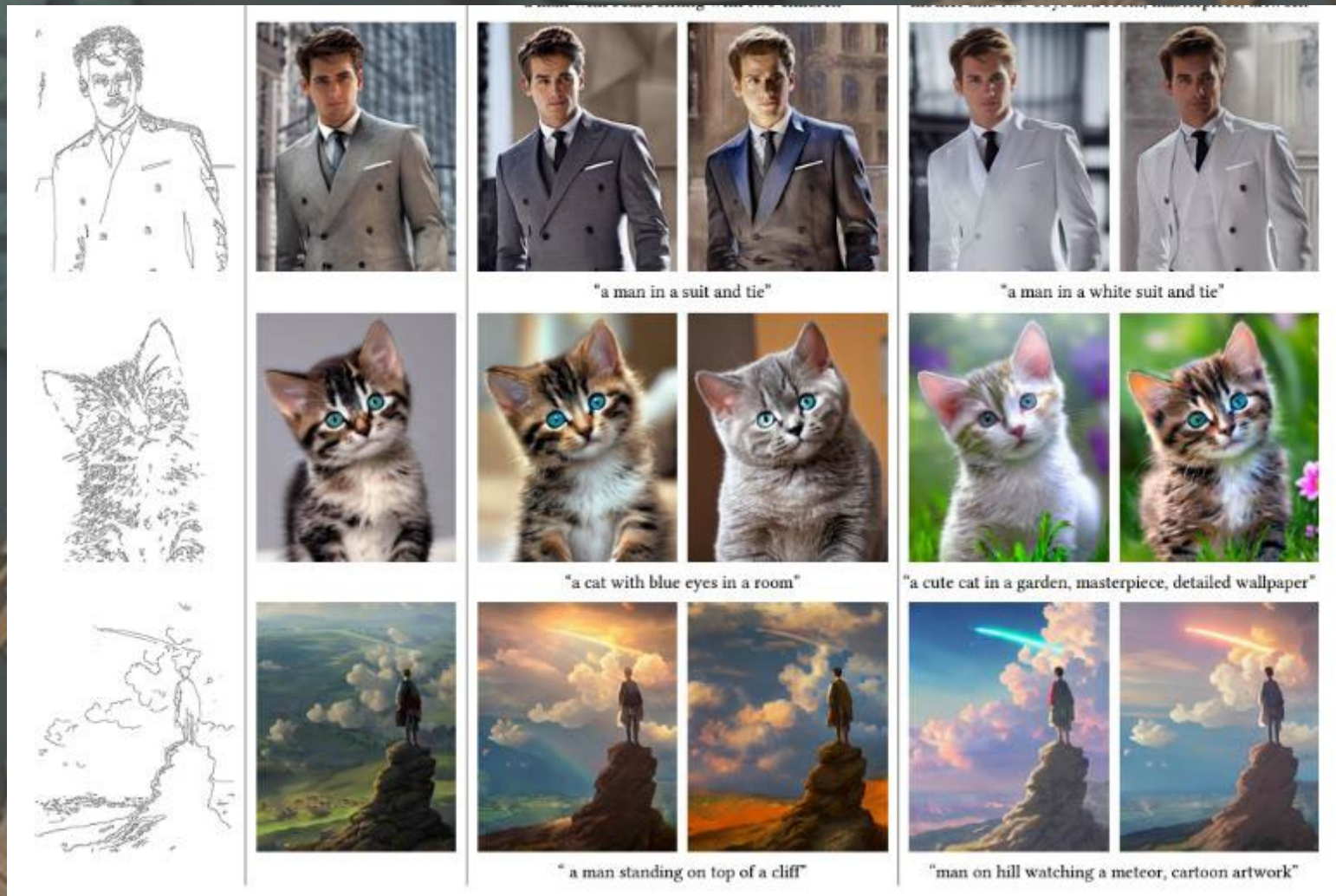
A [V] vase with a colorful flower bouquet



A [V] vase in the ocean

# GENERATIVE ART

CONTROLNET POSE-TO-IMAGE + TEXT PROMPTS





# GENERATIVE ART

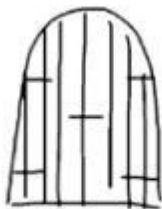
CONTROLNET SKETCH-TO-IMAGE + TEXT PROMPTS



"a digital painting of a hot air balloon"



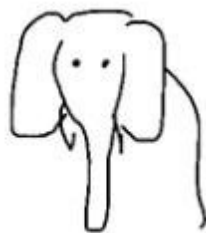
"magic hot air balloon over a lit magic city at night"



"a door on a wall"



"magical door, Hearthstone"



"an elephant with background in the field"



"Egyptian elephant sculpture"



# GENERATIVE FILL

ADOBE PHOTOSHOP



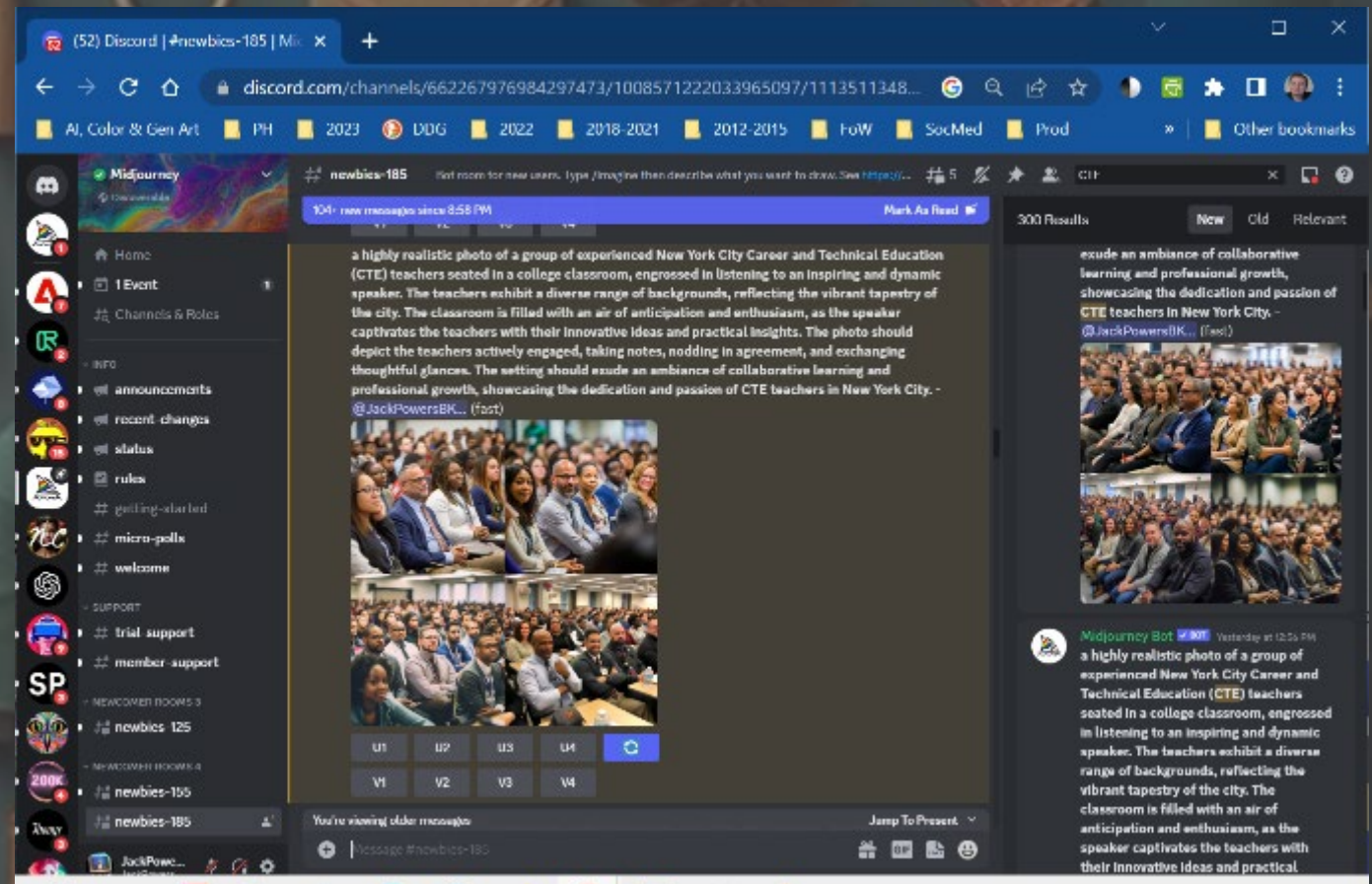


# GENERATIVE ART

ADOBE PHOTOSHOP



# KEY PLAYERS





The background of the image is a dark, textured surface covered with a variety of 3D-printed objects. These objects include tools like a wrench, a screwdriver, and a hammer; clothing items like a green hard hat, a green shirt, and a green skirt; and everyday items like a green mug, a green thermos, a green camera, and a green backpack. The objects are arranged in a somewhat organized but dense pattern, creating a rich, textured background for the text.

# AI ART+CTE

Getting Started with Generative Art