

AI x Design

Professor Danne Woo

aixdesign.danne.design

DESN 370

Fall 2024

Monday 1:40 PM – 5:30 PM

Klapper 107 / Hybrid

What I do

- Graphic Designer
- UX and UI Designer
- Product Designer
- Game Designer
- Woodworker
- Musician
- Programmer
- Engineer
- Hacker
- Maker
- Entrepreneur
- Activist

Design Technologist

How I got here

- Designer parents
- Youngest AIGA member
- First typeface at 10
- Named after designer
- 10 year design career
- Studied design and technology at NYU

SPLAT

Join team two at splat.in/2



WWW.BIGPLAY.ME presents

SPLAT

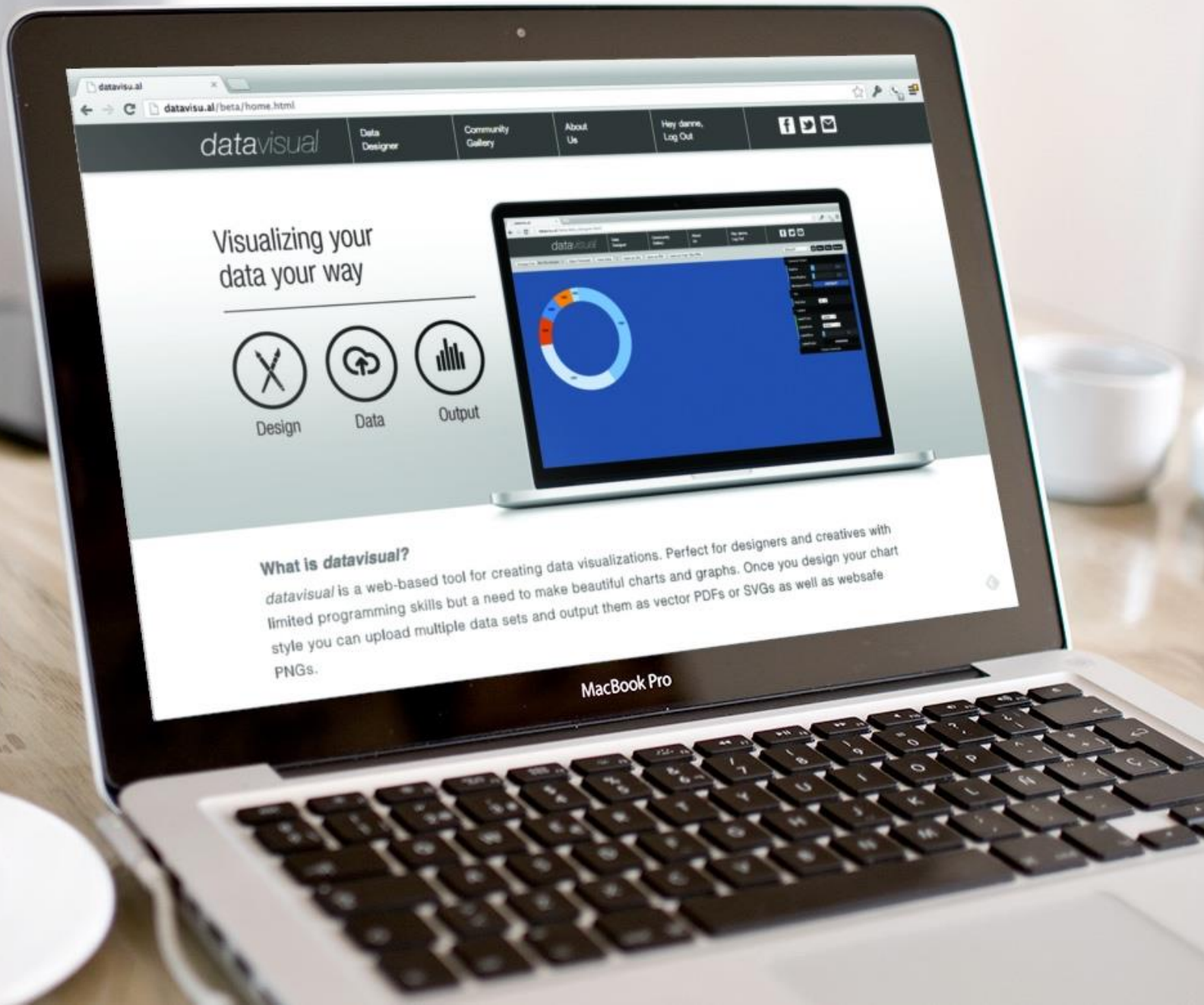
1354
TEAM 1

1575
TEAM 2

0704
TEAM 3

0111
PLAYERS





Visualizing your data your way

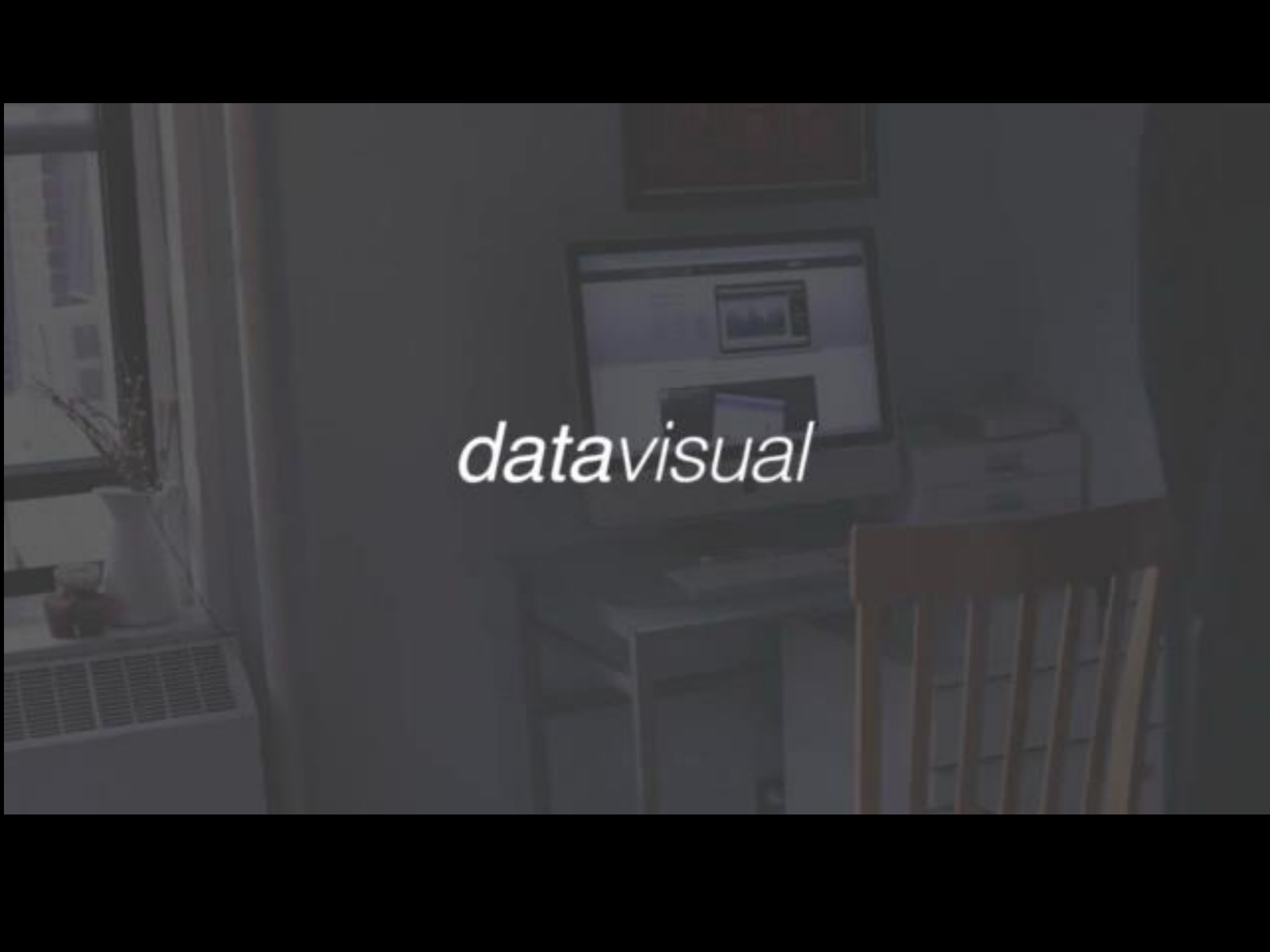
- Design
- Data
- Output



What is *datavisual*?

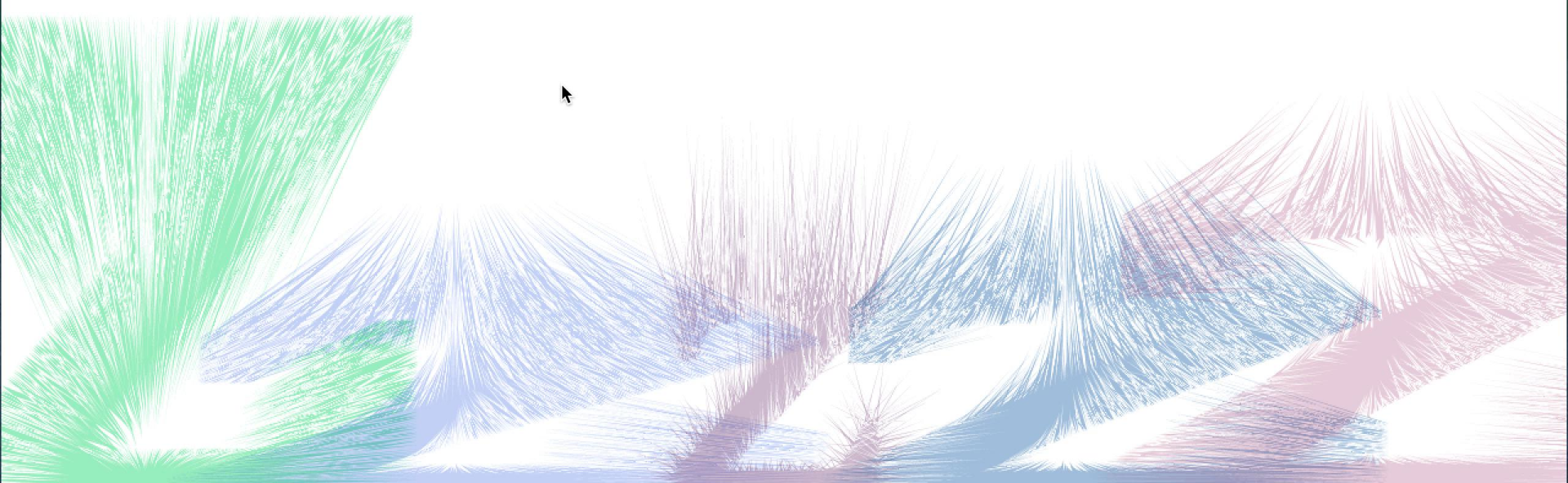
datavisual is a web-based tool for creating data visualizations. Perfect for designers and creatives with limited programming skills but a need to make beautiful charts and graphs. Once you design your chart style you can upload multiple data sets and output them as vector PDFs or SVGs as well as websafe PNGs.

MacBook Pro

A dimly lit room, possibly a home office or study. In the center, a computer monitor sits on a desk, displaying a webpage with a small image. To the right, a wooden chair is partially visible. On the left, a window with white curtains is visible, with a white vase containing dried flowers on a surface below it. The overall atmosphere is quiet and focused.

datavisual



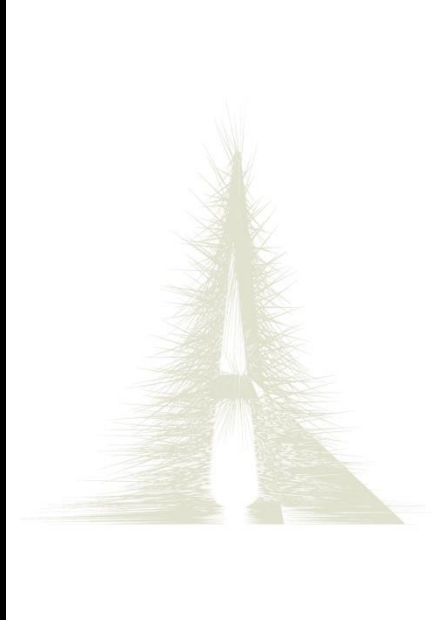
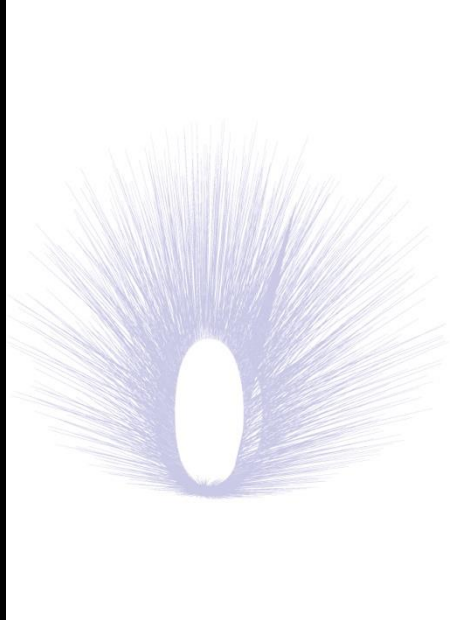
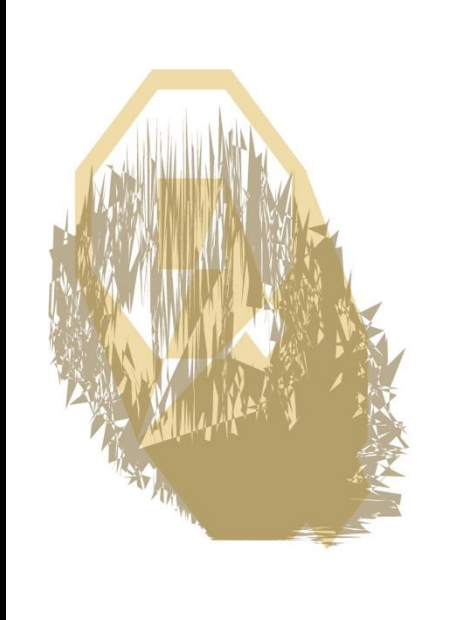
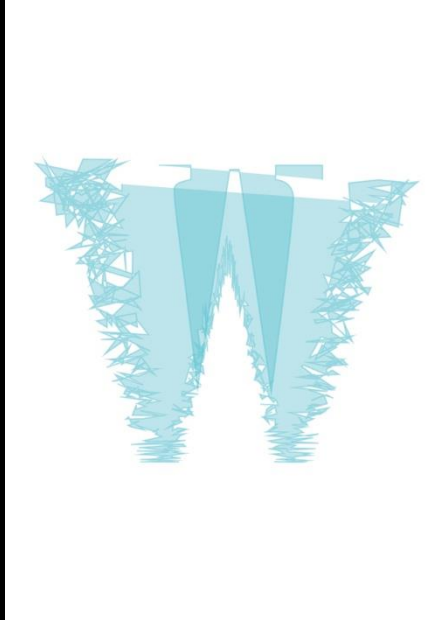


EVOLVE

Press -EVOLVE- to create a new generation

Generation Number: 0

Galapagos: Generative Type Design



Aa Bb Cc Dd Ee

Ff Gg Hh Ii Jj Kk

Ll Mm Nn Oo Pp

Qq Rr Ss Tt Uu

Vv Ww Xx Yy Zz

Catwalk Art Residency

ABOUT

ARTISTS

RESIDENCY



AI Collaborations (@ai_collabo x +)

instagram.com/ai_collaborations/

Bookmarks Ambient Weather Personal Olivia Scripts Materials Design DV CUNY CFS CRISPR COC Every Day Data » Other Bookmarks

Instagram

Home Search Explore Reels Messages Notifications Create Profile

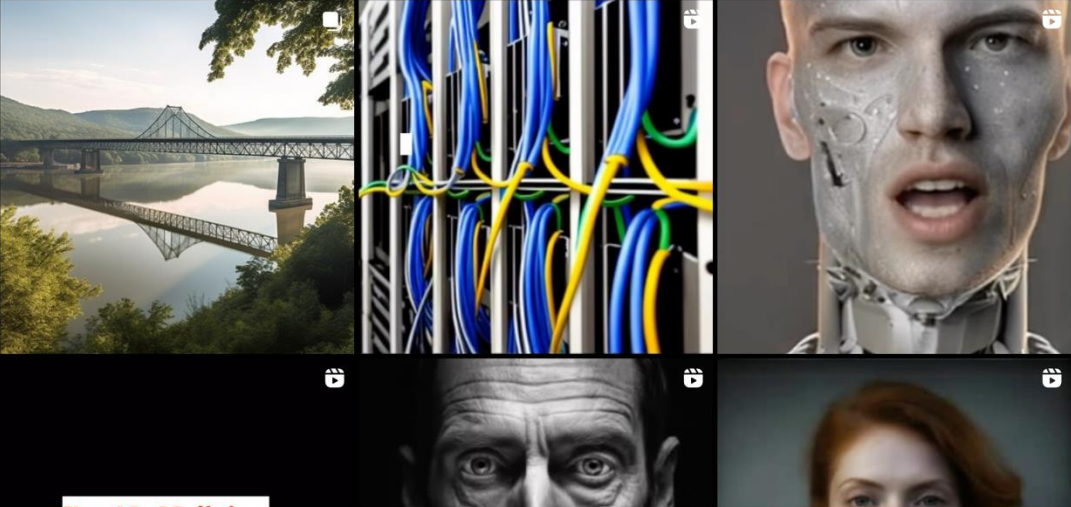
ai_collaborations Following Message ...

36 posts 81 followers 22 following

AI Collaborations he/him/his
Using AI platforms as a means for creative collaboration. Projects created by @dannewoo.
linktr.ee/dannewoo

Followed by pasag, tonyinteractive, yankygrits + 26 more

POSTS REELS TAGGED



The image shows a screenshot of an Instagram profile for 'ai_collaborations'. The profile features a circular profile picture of a man in a suit. The bio states 'AI Collaborations he/him/his' and describes the account as using AI for creative collaboration, with projects by @dannewoo. The bio also includes a link to linktr.ee/dannewoo. The profile has 36 posts, 81 followers, and is following 22 accounts. Below the bio, there are tabs for 'POSTS', 'REELS', and 'TAGGED'. A grid of six images is displayed, showing various AI-generated scenes and faces.

Instagram: @ai_collaborations

Medium: dannewoo.medium.com



Data Science & ML



Your turn.

Who are you?

Why are you interested in this class?

What are you passionate about?

Weeks 1-7

Week 01: Introduction to Generative AI in Design

Week 02: AI-Driven Research, Ideation and Concept Development (ONLINE)

Week 03: Illustration and Image Generation with Generative AI

Week 04: Ethics, Bias and Legalities in AI (ONLINE)

Week 05: Communication Design and AI

Week 06: Midterm Project Development

Week 07: Midterm Presentations

Weeks 8-14

Week 08: User Experience Design and AI

Week 09: Interaction Design and AI

Week 10: Code Generation and AI

Week 11: Animation and AI

Week 12: Training AI Image Models (ONLINE)

Week 13: Final Project Development

Week 14: Final Project Presentation

Class Website

aixdesign.danne.design

The image shows a browser window with the URL `aixdesign.danne.design`. The browser's address bar and bookmarks are visible. The website content is displayed in a two-column layout. The left column contains a navigation menu with sections for 'AI x Design', 'Home', 'Helpful Links', 'Inspiration', and 'SYLLABUS'. The 'SYLLABUS' section lists three weeks of content. The right column features a main heading 'AI x Design' followed by course details: 'Queens College', 'DESN 370: Special Topics in Design', 'Fall 2024', 'Mondays, 1:40 PM – 5:30 PM', 'Klapper 107', and a 'Slack Channel' link. Below this is a 'Course Description' section with introductory text.

AI x Design
Collaborating with AI in the design process

Home

Helpful Links

Inspiration

SYLLABUS

Week 01: Introduction to Generative AI in Design

Week 02: AI-Driven Research, Ideation and Concept Development

Week 03: Illustration and Image Generation with Generative AI

AI x Design

Queens College
DESN 370: Special Topics in Design

Fall 2024
Mondays, 1:40 PM – 5:30 PM
Klapper 107
[Slack Channel](#)

Course Description

In the rapidly evolving landscape of design, generative AI stands at the forefront, offering groundbreaking possibilities and posing new challenges. This course is designed for undergraduate Design BFA students seeking to explore the potential of AI in the creative

Deliverables

Midterm

Use an LLM to help ideate project ideas and propose one that you are excited about.

- Alternative project ideas:
 - Write, design and print a children's book.
 - Design a brand for a company and put together brand guidelines, mockups, marketing materials, etc.
 - Design a series of posters (minimum of 5 variations) for an event of your choosing.

Final

Use an LLM to help ideate project ideas and propose one that you are excited about.

- Alternative project ideas:
 - Design and build a website.
 - Generate a commercial for a brand campaign or a music video for your favorite song.
 - Train your own AI platform based on your own data or imagery.

All students will be required to present their midterm at week 7 and final at week 14.

Grading

80% Assignments

- Effort
- Concept/Idea
- Documentation
- Creativity
- Technical knowledge
- Usage of AI models

20% Class Participation

Check the class website for a detailed description on how to achieve each grade.

Attendance

BE HERE AND DON'T BE LATE!

2 unexcused absences will mean a drop in your grade

3 will drop again

4 will be an F

Slack

The screenshot displays a Slack interface with a dark theme. On the left, a sidebar shows the workspace name "QC Design" and a list of channels. The channel "creative-coding-spring2020" is selected and highlighted in blue. Below the channel list, there are sections for "Direct messages" and "Channels".

The main content area shows a conversation in the "creative-coding-spring2020" channel. The channel name is at the top, followed by a search bar and a "Details" link. The conversation history includes:

- A message from an unnamed user: "Thank you, Professor !! And amazing work ev" (Thursday, May 21st). It has 1 heart reaction and a share icon.
- A message from Danne Woo at 3:04 PM: "If you guys have any other questions in the future please feel free to Slack or email me 😊". It has 2 👍 reactions and a share icon.
- A message from Faith Mayan at 3:04 PM: "Thank you for being so patient and understanding through this mess, you rock!". It has 1 ❤️ reaction and a share icon.
- A message from Danne Woo at 3:05 PM: "bye (483 kB)".

Below the text message is a large image of SpongeBob SquarePants standing in a doorway, pointing towards the viewer. Below the image, it says "Posted using /siphv". At the bottom of the screen is a message input field with a rich text editor toolbar containing icons for bold, italic, link, code, quote, bulleted list, numbered list, indent, and link. The input field contains the text "Message creative-coding-spring2020".

Medium

The image shows a browser window displaying the Medium profile of Danne Woo. The browser's address bar shows the URL `dannewoo.medium.com`. The page header includes the Medium logo, a search bar, and navigation links for 'Write', 'Sign up', and 'Sign in'. The profile section features a circular profile picture of Danne Woo, his name, and a 'Follow' button. Below the profile, two articles are listed. The first article, 'Tome: Promising AI for Presentations, But is it Worth the Hype?', is dated 'Jun 12' and has 1 clapping hand icon. The second article, 'Tokyo: A Journey Through Technological Artistry', is dated 'Jul 24, 2023' and has 2 clapping hand icons. The browser's bookmark bar is visible at the top, listing various folders like 'Personal', 'Olivia', 'Scripts', etc.

Medium [Write](#) [Sign up](#) [Sign in](#)

Danne Woo

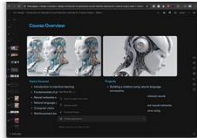
[Home](#) [About](#)

Danne Woo

Tome: Promising AI for Presentations, But is it Worth the Hype?

Tome, a generative AI platform, promises to revolutionize presentations with AI-powered slide creation. It allows you to...

Jun 12 1



Danne Woo

Tokyo: A Journey Through Technological Artistry

Tokyo, Japan, a city known for its technological advancements and creative spirit, offers a unique blend of art and technology...

Jul 24, 2023 2

[Help](#) [Status](#) [About](#) [Careers](#) [Press](#) [Blog](#) [Privacy](#) [Terms](#)
[Text to speech](#) [Teams](#)

Zoom

The screenshot shows the Zoom desktop application interface. At the top, there is a navigation bar with the Zoom logo, a search bar, and icons for Home, Meetings, Team Chat, and More. Below the navigation bar, the main content area is divided into two sections. The left section displays a list of upcoming meetings, including the date, meeting title, time, and meeting ID. The right section displays the user's personal meeting ID (PMI) and provides options to start a meeting, copy the invitation, or edit the details. A link to show the meeting invitation is also present.

zoom Workplace

Search ⌘F

Home Meetings Team Chat More

Upcoming Recorded

389 866 4851
My personal meeting ID (PMI)

Mon, Sep 16

AI x Design - Michael Guest Lecture
1:45 PM - 5:00 PM
Meeting ID: 842 3416 6248

Mon, Sep 30

AI x Design / James' IP & Copyright La...
2:00 PM - 4:00 PM
Meeting ID: 860 7447 4493

Mon, Nov 25

AI x Design - Matt Guest Lecture
1:30 PM - 5:00 PM
Meeting ID: 883 6276 8132

[Add a calendar](#)

My personal meeting ID (PMI)

389 866 4851

[Start](#) [Copy invitation](#) [Edit](#)

[Show meeting invitation](#)

Guest Lecturers / Remote Class



Michael J. Morgan
ChatGPT and LLMs
September 16



James Creedon
AI and IP Law
September 30



Matt O'Brian
AI and Entertainment
November 25



Jen Hersh
AI at Adobe
TBD

What does Artificial Intelligence (AI) mean to you?

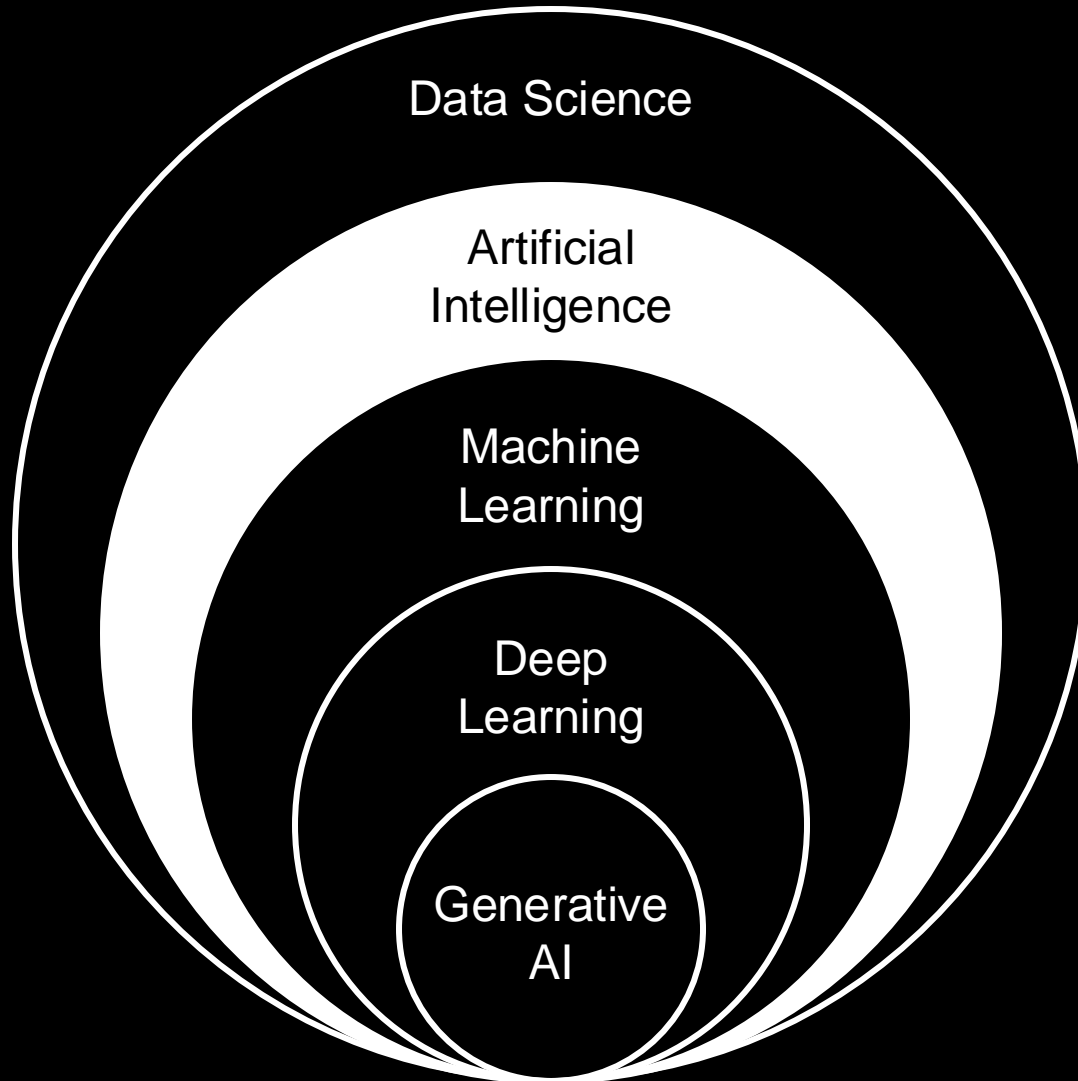
Join at menti.com | use code **9145 7731**



WTF is AI?!



WTF is AI?!



Data Science

HR_Employee_Attrition_Data

docs.google.com/spreadsheets/d/1KdqDqKX0DKqIwd2RfJtmXORjwOQ8Mu9A/edit?gid=940232255#gid=...

HR_Employee_Attrition_Dataset .XLSX

File Edit View Insert Format Data Tools Help

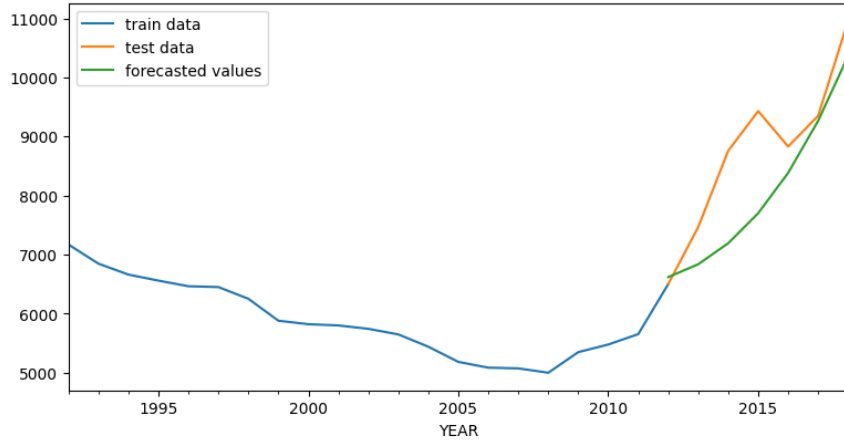
100% Calibri 11

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Employee	Attrition	Age	BusinessTravel	DailyRate	Department	DistanceFromHome	Education	EducationField	Environment	Gender	HourlyRate	JobInvolvement	JobLevel	JobRole	JobSatisfaction	MaritalStatus	MonthlyIncome	MonthlyRevenue	NumComplaints	Over18	OverTime
2	1	Yes	41	Travel_Ra	1102	Sales	1	2	Life Scienc	2	Female	94	3	2	Sales Exec	4	Single	5993	19479	8	Y	Yes
3	2	No	49	Travel_Fre	279	Research	8	1	Life Scienc	3	Male	61	2	2	Research	2	Married	5130	24907	1	Y	No
4	3	Yes	37	Travel_Ra	1373	Research	2	2	Other	4	Male	92	2	1	Laborator	3	Single	2090	2396	6	Y	Yes
5	4	No	33	Travel_Fre	1392	Research	3	4	Life Scienc	4	Female	56	3	1	Research	3	Married	2909	23159	1	Y	Yes
6	5	No	27	Travel_Ra	591	Research	2	1	Medical	1	Male	40	3	1	Laborator	2	Married	3468	16632	9	Y	No
7	6	No	32	Travel_Fre	1005	Research	2	2	Life Scienc	4	Male	79	3	1	Laborator	4	Single	3068	11864	0	Y	No
8	7	No	59	Travel_Ra	1324	Research	3	3	Medical	3	Female	81	4	1	Laborator	1	Married	2670	9964	4	Y	Yes
9	8	No	30	Travel_Ra	1358	Research	24	1	Life Scienc	4	Male	67	3	1	Laborator	3	Divorced	2693	13335	1	Y	No
10	9	No	38	Travel_Fre	216	Research	23	3	Life Scienc	4	Male	44	2	3	Manufact	3	Single	9526	8787	0	Y	No
11	10	No	36	Travel_Ra	1299	Research	27	3	Medical	3	Male	94	3	2	Healthcar	3	Married	5237	16577	6	Y	No
12	11	No	35	Travel_Ra	809	Research	16	3	Medical	1	Male	84	4	1	Laborator	2	Married	2426	16479	0	Y	No
13	12	No	29	Travel_Ra	153	Research	15	2	Life Scienc	4	Female	49	2	2	Laborator	3	Single	4193	12682	0	Y	Yes
14	13	No	31	Travel_Ra	670	Research	26	1	Life Scienc	1	Male	31	3	1	Research	3	Divorced	2911	15170	1	Y	No
15	14	No	34	Travel_Ra	1346	Research	19	2	Medical	2	Male	93	3	1	Laborator	4	Divorced	2661	8758	0	Y	No
16	15	Yes	28	Travel_Ra	103	Research	24	3	Life Scienc	3	Male	50	2	1	Laborator	3	Single	2028	12947	5	Y	Yes
17	16	No	29	Travel_Ra	1389	Research	21	4	Life Scienc	2	Female	51	4	3	Manufact	1	Divorced	9980	10195	1	Y	No
18	17	No	32	Travel_Ra	334	Research	5	2	Life Scienc	1	Male	80	4	1	Research	2	Divorced	3298	15053	0	Y	Yes
19	18	No	22	Non-Travel	1123	Research	16	2	Medical	4	Male	96	4	1	Laborator	4	Divorced	2935	7324	1	Y	Yes
20	19	No	53	Travel_Ra	1219	Sales	2	4	Life Scienc	1	Female	78	2	4	Manager	4	Married	15427	22021	2	Y	No
21	20	No	38	Travel_Ra	371	Research	2	3	Life Scienc	4	Male	45	3	1	Research	4	Single	3944	4306	5	Y	Yes
22	21	No	24	Non-Travel	673	Research	11	2	Other	1	Female	96	4	2	Manufact	3	Divorced	4011	8232	0	Y	No
23	22	Yes	36	Travel_Ra	1218	Sales	9	4	Life Scienc	3	Male	82	2	1	Sales Rep	1	Single	3407	6986	7	Y	No
24	23	No	34	Travel_Ra	419	Research	7	4	Life Scienc	1	Female	53	3	3	Research	2	Single	11994	21293	0	Y	No
25	24	No	21	Travel_Ra	391	Research	15	2	Life Scienc	3	Male	96	3	1	Research	4	Single	1232	19281	1	Y	No
26	25	Yes	34	Travel_Ra	699	Research	6	1	Medical	2	Male	83	3	1	Research	1	Single	2960	17102	2	Y	No
27	26	No	53	Travel_Ra	1282	Research	5	3	Other	3	Female	58	3	5	Manager	3	Divorced	19094	10735	4	Y	No
28	27	Yes	32	Travel_Fre	1125	Research	16	1	Life Scienc	2	Female	72	1	1	Research	1	Single	3919	4681	1	Y	Yes
29	28	No	42	Travel_Ra	691	Sales	8	4	Marketing	3	Male	48	3	2	Sales Exec	2	Married	6825	21173	0	Y	No
30	29	No	44	Travel_Ra	477	Research	7	4	Medical	1	Female	42	2	3	Healthcar	4	Married	10248	2094	3	Y	No
31	29	No	46	Travel_Ra	705	Sales	2	4	Marketing	2	Female	82	2	5	Manager	1	Single	18047	22822	2	Y	No

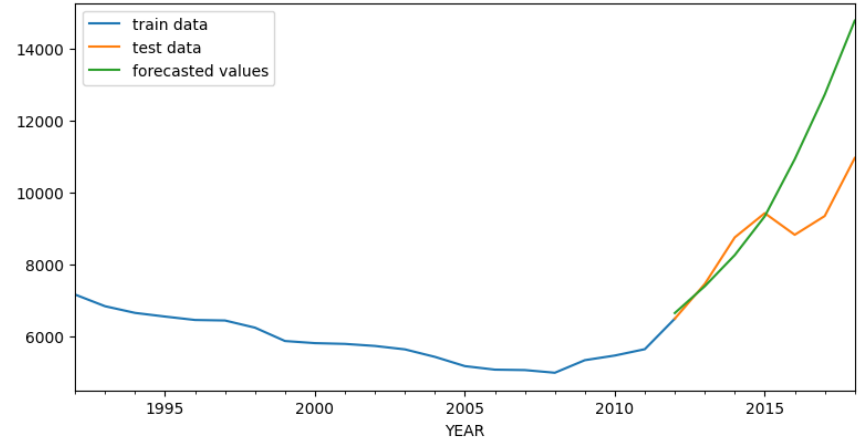
HR_Employee_Attrition_Data

Data Visualization

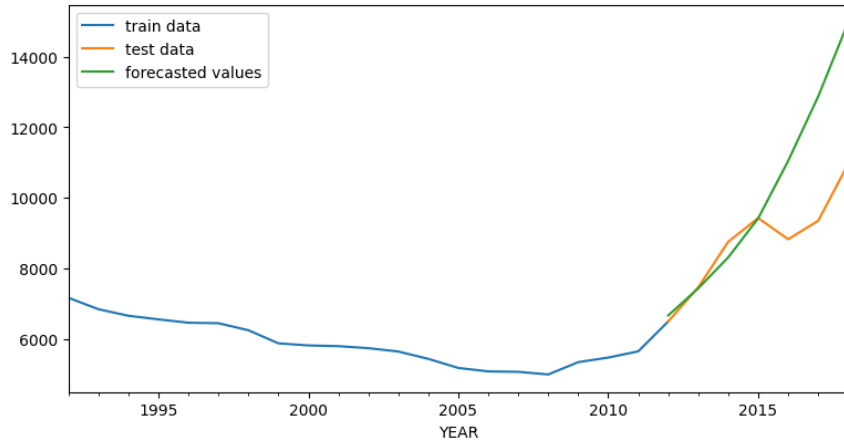
AIC: 259.38 , RMSE: 957.08



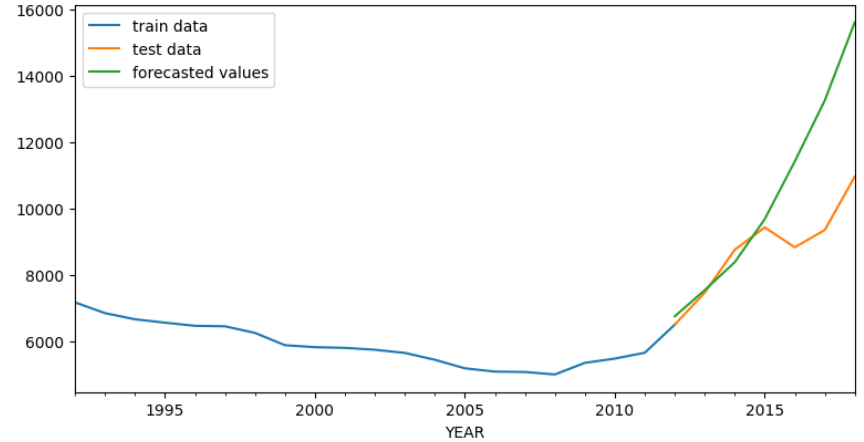
AIC: 251.66 , RMSE: 2090.73



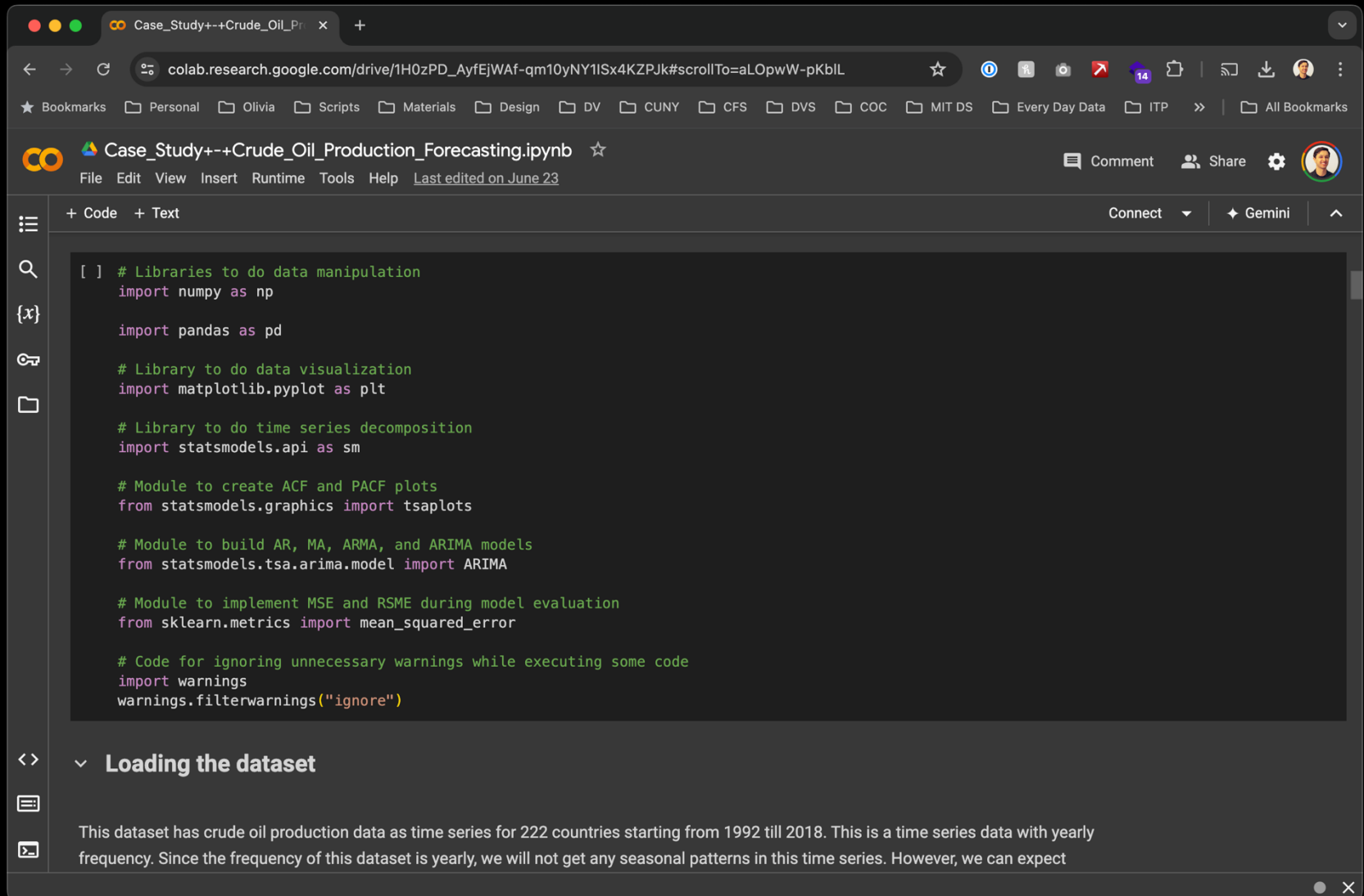
AIC: 253.64 , RMSE: 2191.81



AIC: 252.99 , RMSE: 2500.64



Code and Statistics



The image shows a Google Colab notebook interface. The browser address bar displays the URL: `colab.research.google.com/drive/1H0zPD_AyfEjWaf-qm10yNY1ISx4KZPJk#scrollTo=aLOpwW-pKbIL`. The notebook title is "Case_Study+++Crude_Oil_Production_Forecasting.ipynb". The code cell contains the following Python code:

```
[ ] # Libraries to do data manipulation
import numpy as np

import pandas as pd

# Library to do data visualization
import matplotlib.pyplot as plt

# Library to do time series decomposition
import statsmodels.api as sm

# Module to create ACF and PACF plots
from statsmodels.graphics import tsaplots

# Module to build AR, MA, ARMA, and ARIMA models
from statsmodels.tsa.arima.model import ARIMA

# Module to implement MSE and RSME during model evaluation
from sklearn.metrics import mean_squared_error

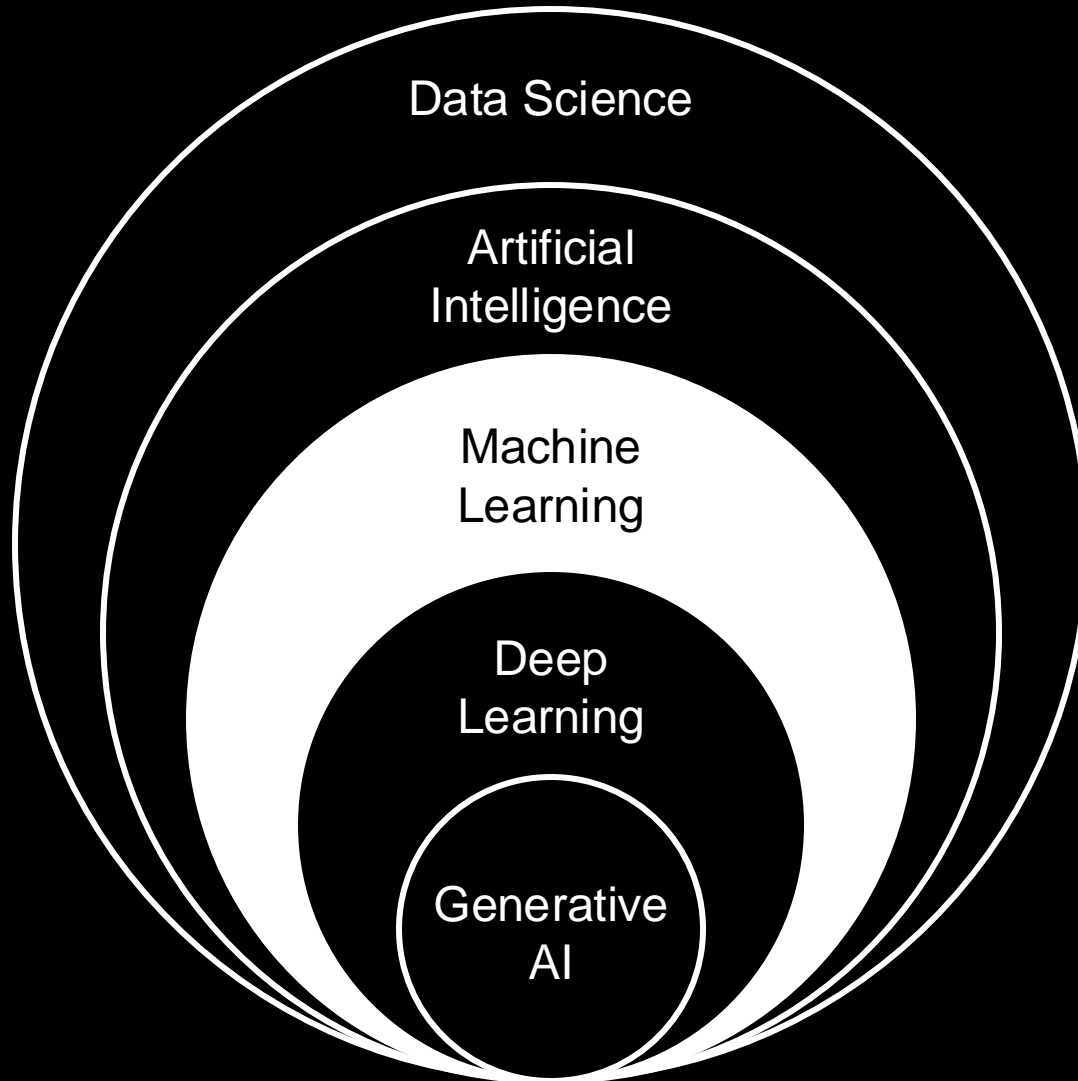
# Code for ignoring unnecessary warnings while executing some code
import warnings
warnings.filterwarnings("ignore")
```

Below the code cell, there is a section titled "Loading the dataset" with a downward arrow icon. The text in this section reads:

▼ **Loading the dataset**

This dataset has crude oil production data as time series for 222 countries starting from 1992 till 2018. This is a time series data with yearly frequency. Since the frequency of this dataset is yearly, we will not get any seasonal patterns in this time series. However, we can expect

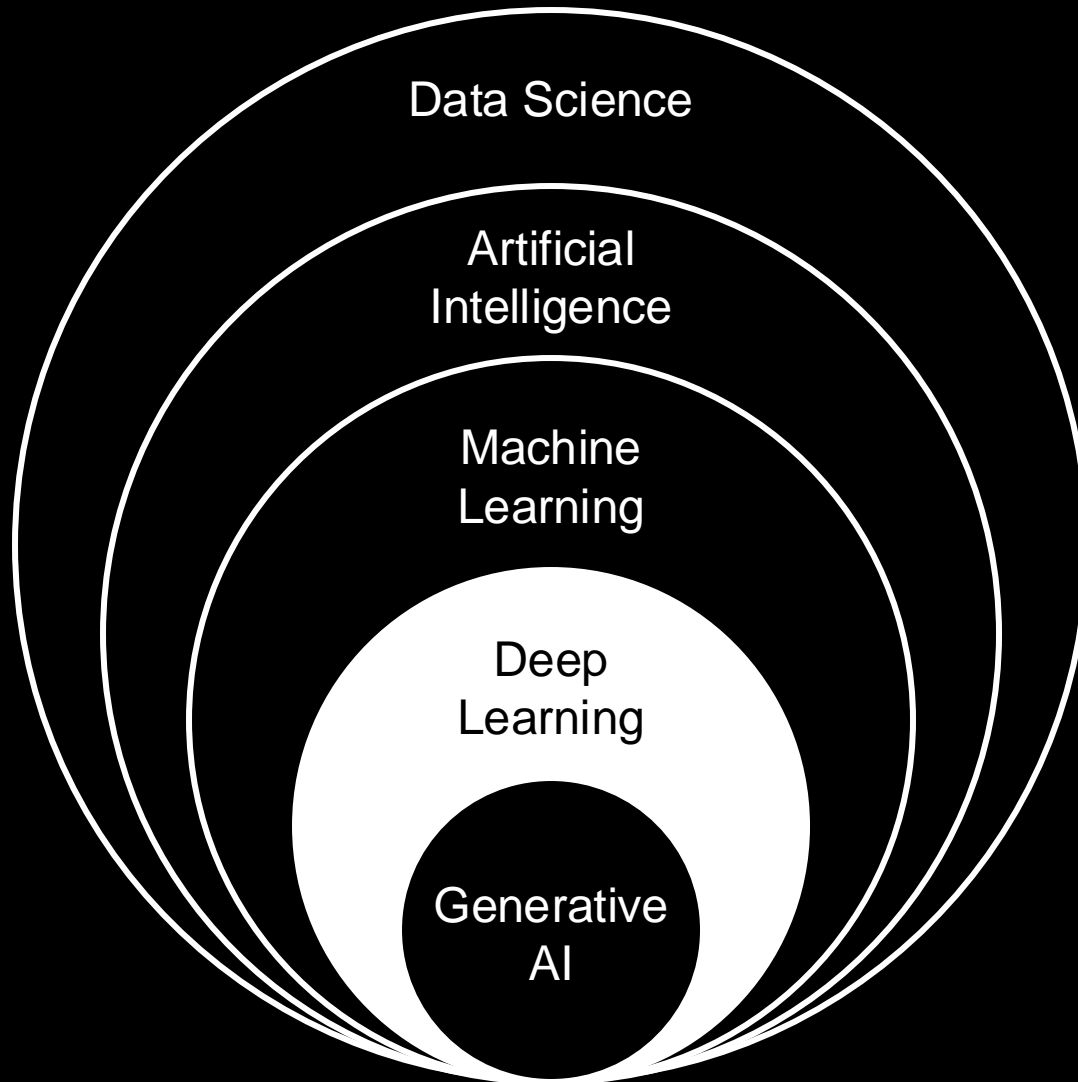
Machine Learning



Machine Learning

- Recommendation Systems
 - Netflix, Instagram, Facebook, TikTok
- Predictive Analysis
 - Google Search Autocomplete, sales, investing, healthcare
- Spam Detection
 - Gmail
- Customer Segmentation
 - Instagram Ads, Facebook Ads, Google Ads

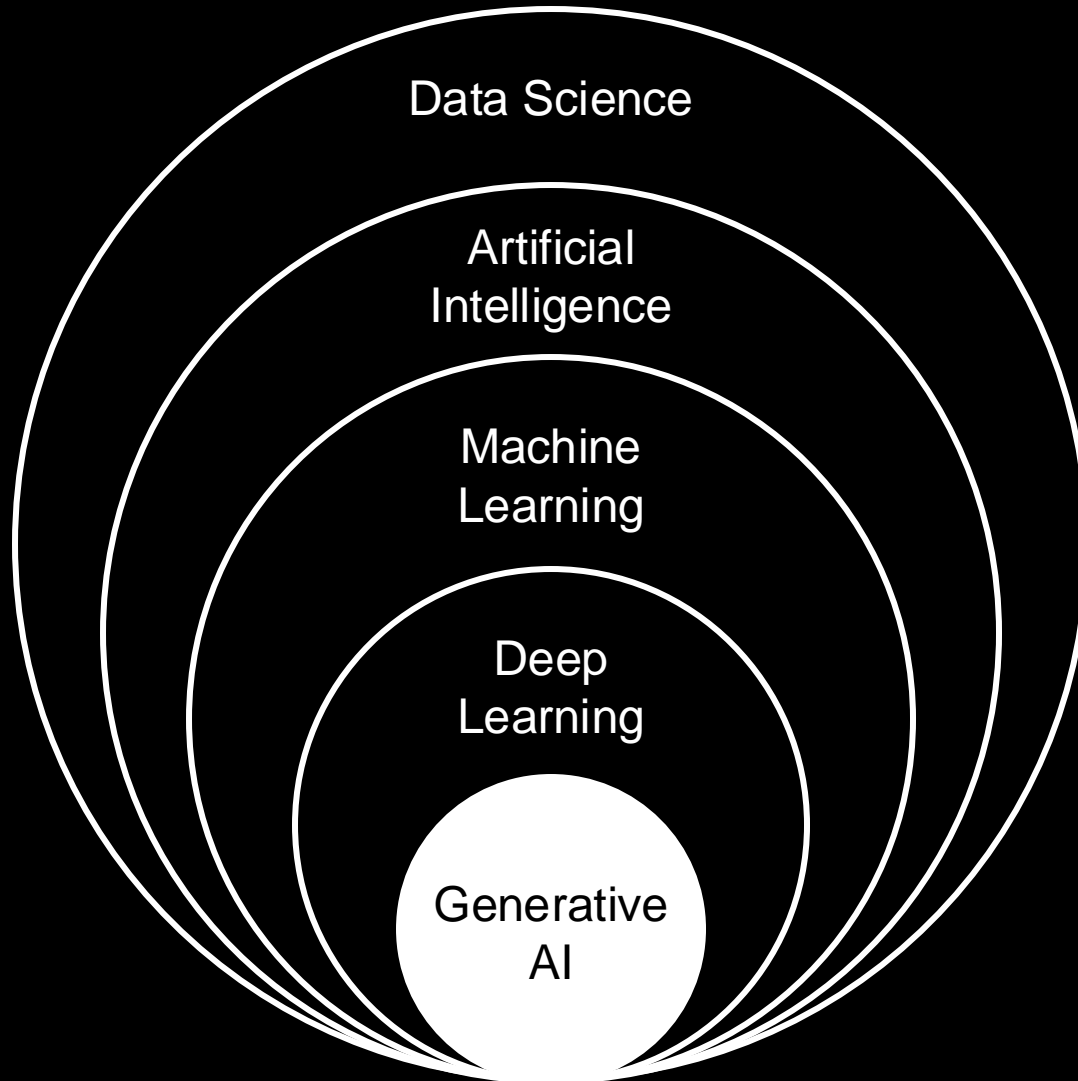
WTF is AI?!



Deep Learning

- Natural Language Processing
 - Chatbots
- Visual Recognition
 - Facial recognition, google reverse image search
- Speech Recognition
 - Siri, Alexa
- Translation
 - Google translate
- Autonomous Driving
 - Tesla Autopilot, Waymo
- Cyber Security / Fraud Detection
 - Banks and financial institutions

Generative AI



Generative AI

A type of artificial intelligence that can generate new data, such as images, music, or text, based on a set of training data using a simple text and/or media prompt. These systems use machine learning techniques, like neural networks, to analyze and learn from the data.

Generative AI Models

Large Language Models (LLM)

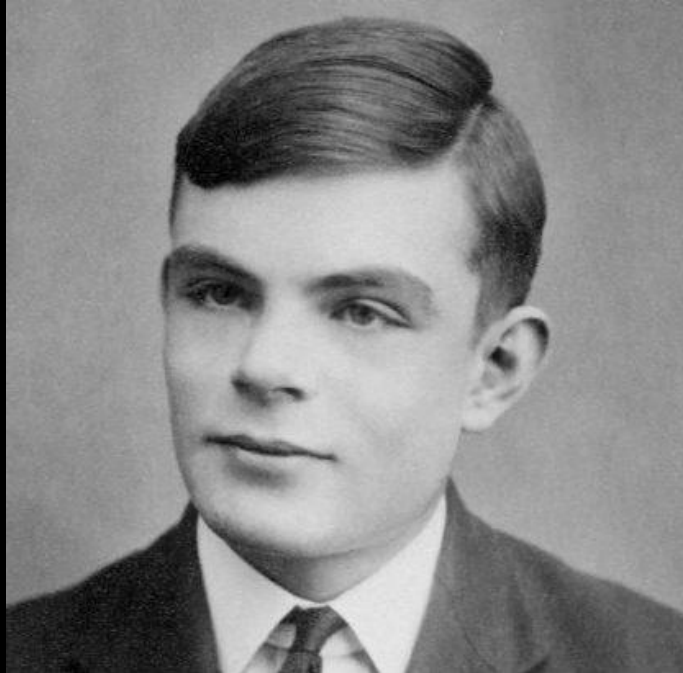


Generative AI Models

Text-to-Text	ChatGPT, Gemini, Perplexity, Claude
Text-to-Image	MidJourney, Stable Diffusion, Dalle, Adobe Firefly
Text-to-Video	Runway ML, Pika, Deforum, Synthesia, Viggle, Sora
Text-to-Music	Google Music FX, Stable Audio, Suno
Text-to-Speech	Eleven Labs, Uberduck
Text-to-Logo	Looka, Brandmark
Text-to-Code	Gemini, ChatGPT, Github Copilot
Text-to-Website	Uizard, Dora

AI isn't New

1940 – 1960



Alan Turing / 1950s



John McCarthy / 1950s

AI isn't New

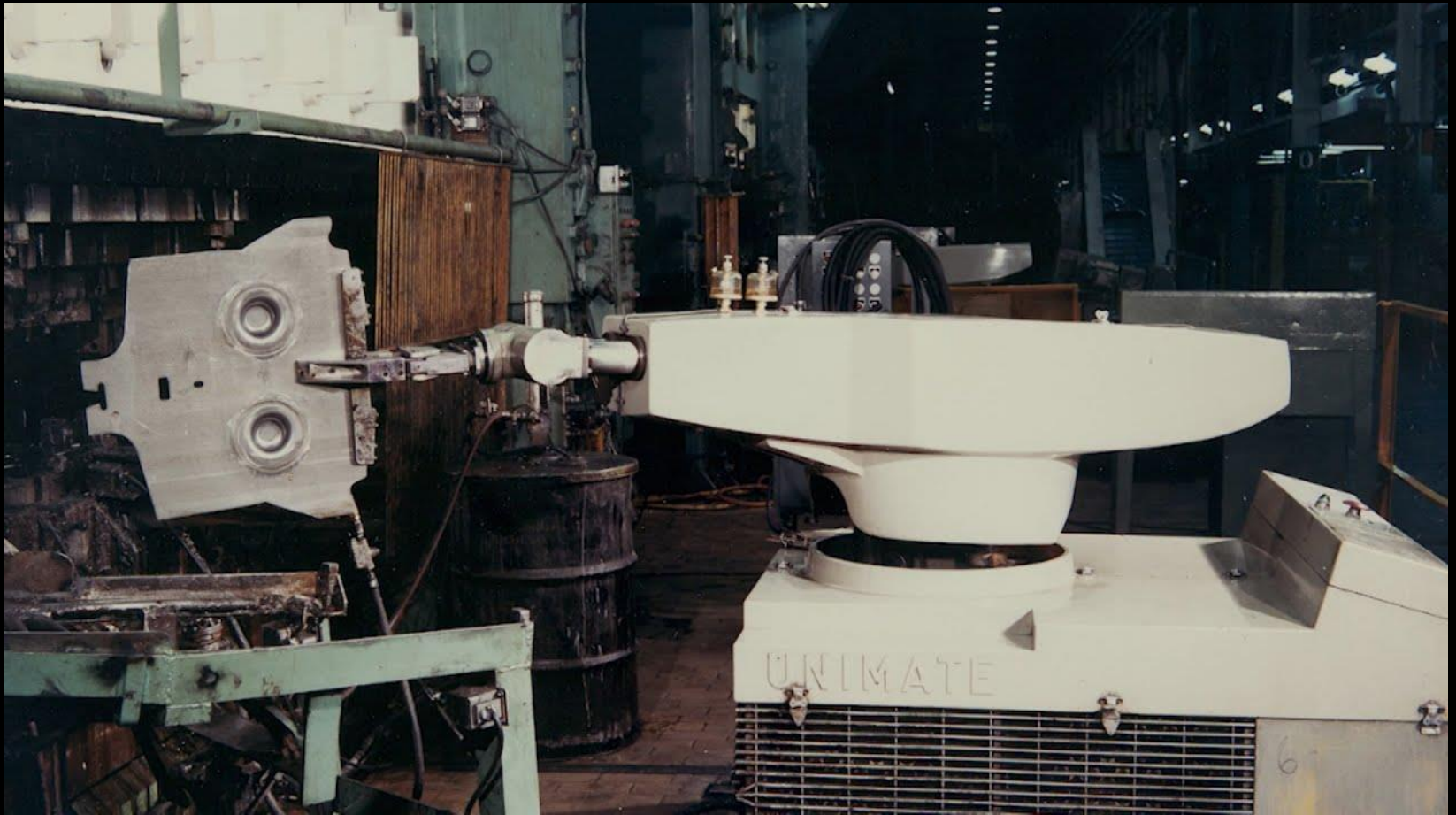
1960s

```
=====
EEEEEEEE L          IIIIIII ZZZZZZZ          AAA
E         L          I          Z          A      A
E         L          I          Z          A      A
EEEEEE   L          I          Z          A      A
E         L          I          Z          AAAAAA
E         L          I          Z          A      A
EEEEEEEE LLLLLLLL IIIIIII ZZZZZZ          A      A
=====
ELIZA > (PLEASE TYPE IN ALL CAPS) WHAT'S YOUR NAME DEAR ?
AMIT
ELIZA > HI, I'M ELIZA. WHAT DO YOU WANT TO TALK ABOUT ?
AMIT > CAN I TALK ABOUT MY PROBLEM ?
ELIZA > SURE... !
AMIT > DUE TO ON GOING EXAMS IN COLLEGE, I HAVE A LOT OF STRESS.
ELIZA > PLEASE RELAX A LITTLE. SLEEP WELL.
AMIT > THANKS FOR YOUR ADVICE.
ELIZA > NO MENTION.
AMIT > BYE
ELIZA > BYE AND KEEP IN TOUCH...
=====
```

ELIZA chatbot, 1964

AI isn't New

1960s



General Motors Unimate Robot / 1960s

AI isn't New

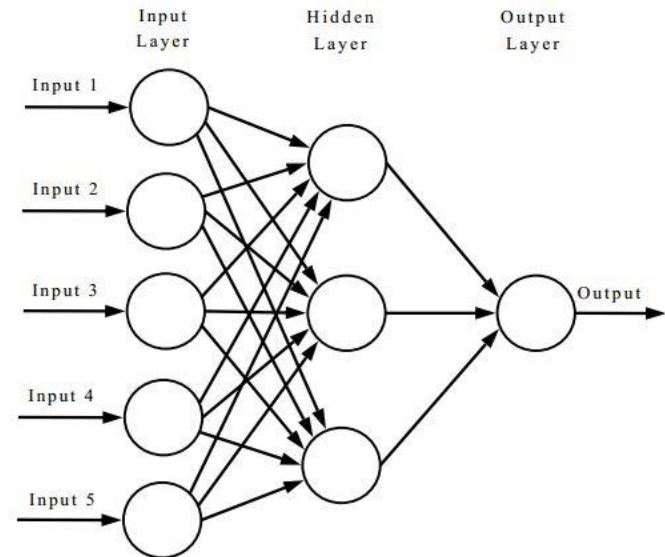
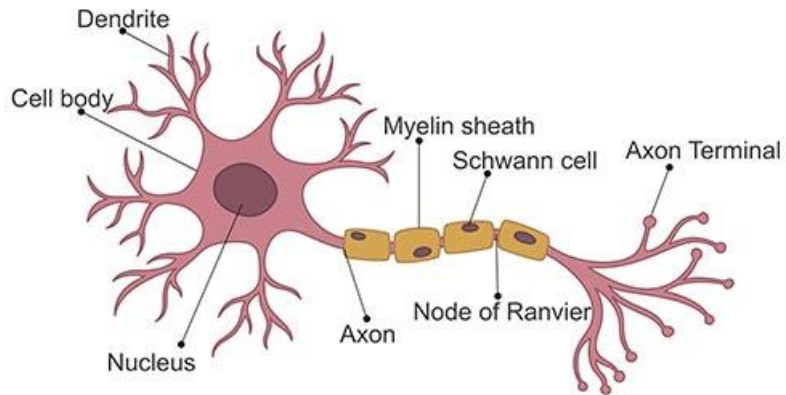
1980s



Mercedes-Benz Driverless Car / 1980s

AI isn't New

1980s



Deep Learning and Neural Networks

AI isn't New

1990 – 2010s



IBM Watson on Jeopardy / 2010s

AI isn't New

1990 – 2010s



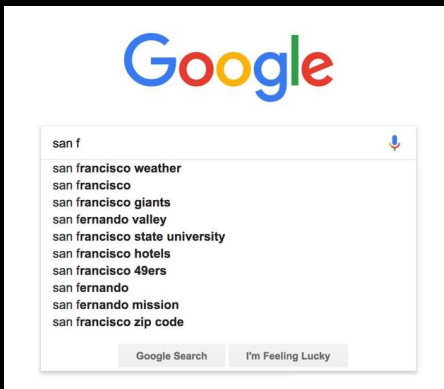
MapQuest / 1996



Netflix / 1998



Amazon / 2003



Google Autofill / 2004



Instagram / 2010



Apple Siri / 2010

AI isn't New

1990 – 2010s

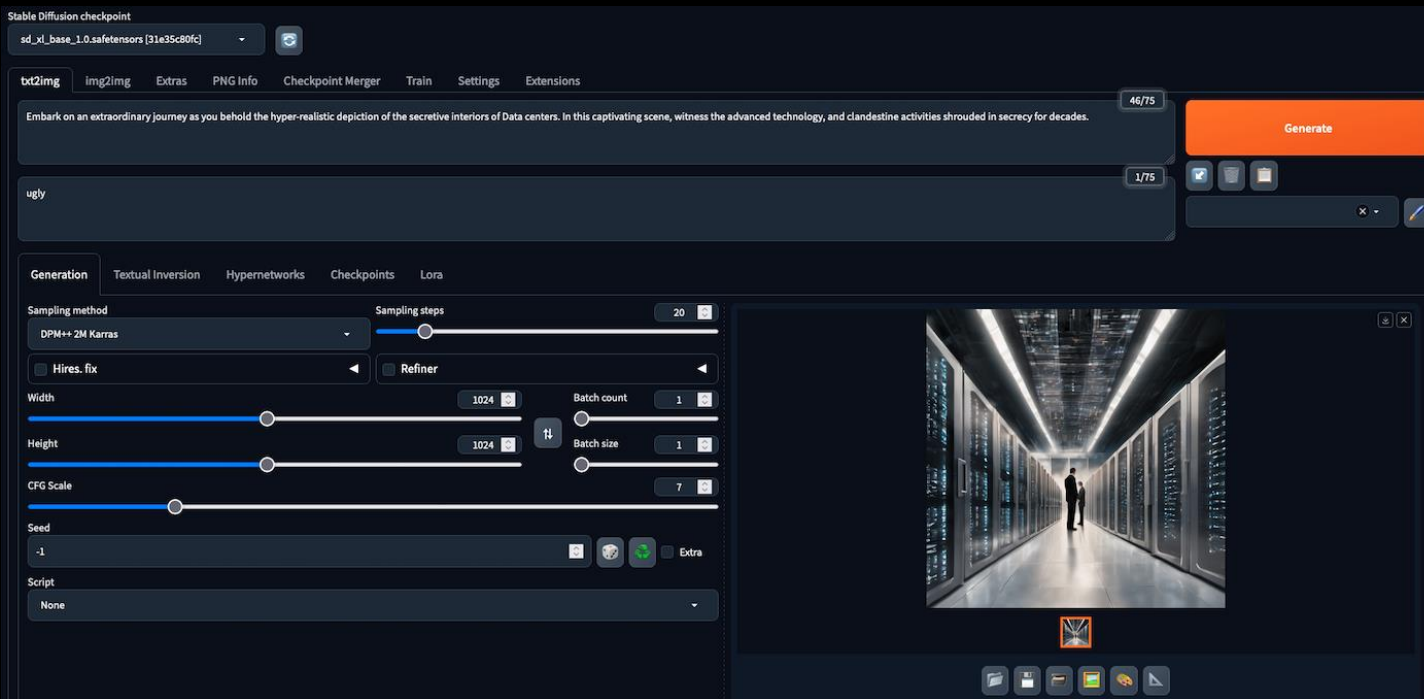


Open AI Releases GPT-2 / 2019

AI isn't New

2020 – Present

stability.ai



Stability AI, Stable Diffusion / 2022

AI isn't New

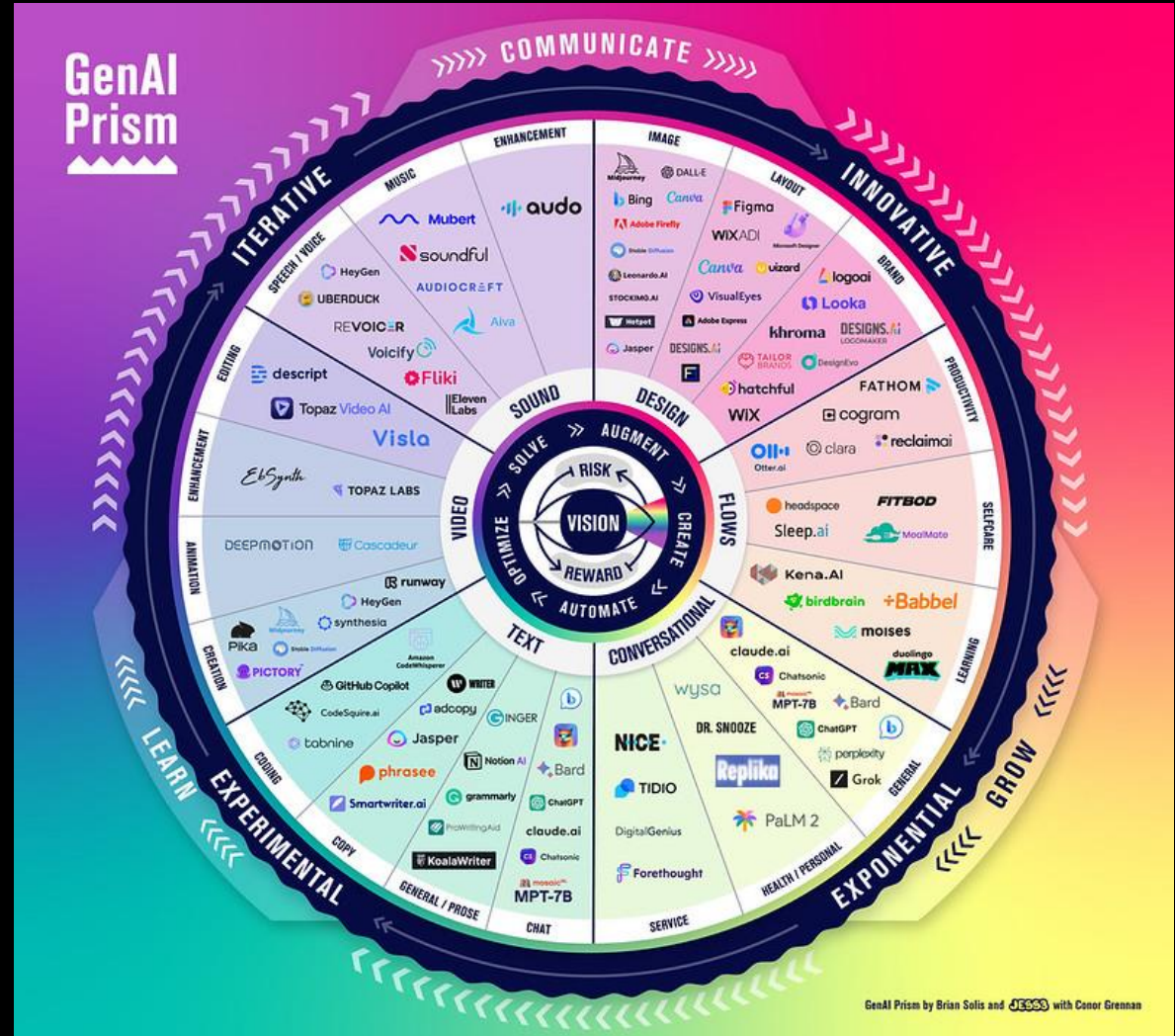
2020 – Present



ChatGPT 3.5

AI isn't New

2020 – Present



AI isn't New

Data, data, data!!!

- In 2021, people created 2.5 quintillion bytes of data every day.
- In 2022, 91% of Instagram users engaged with brand videos.
- By 2025, 200+ zettabytes of data will be in cloud storage around the globe.
- In 2022, users sent around 650 million Tweets per day.
- In 2022, 333.2 billion emails were sent every day.

Artificial General Intelligence (AGI)

A type of AI that aims to match or surpass human capabilities across a wide range of cognitive tasks.

Ethical Concerns

- Bias and Discrimination
- Intellectual Property and Copyright Issues
- Loss of Human Authorship
- Misinformation and Deepfakes
- Job Displacement and Economic Inequality
- Transparency and Accountability
- Energy Consumption

Future Fears

Entry-Level Graphic Designers: AI tools can automate the creation of basic design elements reducing the need for human designers for routine tasks.

Illustrators for Stock Art: AI can produce high-quality illustrations and concept art.

Animators for Basic Animations: AI tools can automate the creation of simple animations

Social Media Content Creation: AI can create and schedule social media posts.

Copywriters for Routine Content: AI can generate articles, blog posts, and product descriptions.

A New Normal

Incorporate AI into your Creative Process: Learn to integrate AI tools into your workflow to enhance creativity and efficiency.

Specialize in High-Creativity Areas: Focus on roles that require a high level of creative thinking, strategic thinking, and human insight, such as creative direction or complex narrative development.

Develop Unique Personal Style: Cultivate a distinct artistic voice and style that AI cannot replicate and stands out from the AI saturated creative market.

Stay Updated on Industry Trends: Continuously learn and adapt to new tools, technologies, and methodologies.

Focus on Human-Centered Design: Prioritize empathy, user experience, and ethical considerations in your work.



**You will be alright.
There. There.**

Benefits of AI

- Improved Healthcare
- Enhanced and Customized Education
- Environmental Sustainability Problem Solving
- Improved Accessibility for People with Disabilities
- Scientific Discovery and Research Advancements
- Enhanced Customer Experiences
- Advances in Automation and Smart Cities

In Class Assignment

1. Sign up for Slack.
2. Send an email using the email address you use for Slack to danne.woo@qc.cuny.edu so I can add you to the class Slack channel.

Homework

1. **Set up a blog on Medium.com to track all of your experiments and studies.**
2. **Write a reflection on the potential impact of AI in either communication design, illustration, animation and the creative industry as a whole. Add the link to the write up to the class Slack channel.**

AI x Design

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