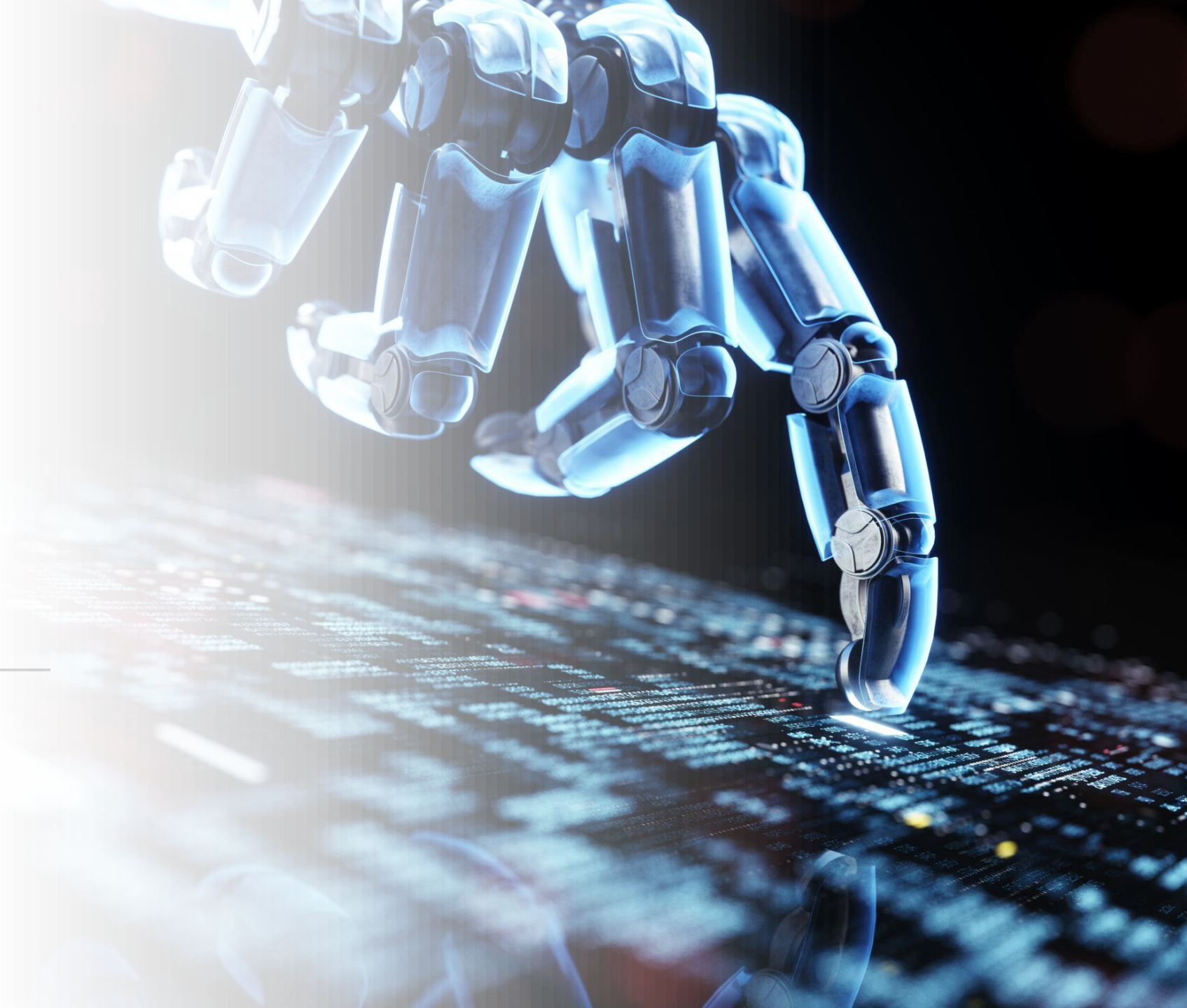


# AI use cases in Academia

---



# ChatGPT

- ChatGPT can help you draft the outlines of your presentation

The screenshot displays the ChatGPT web interface. On the left is a dark sidebar with navigation options: 'ChatGPT', 'Coloring Book Hero', 'Explore 4', 'Previous 7 Days 5', and 'Previous 30 Days'. At the bottom of the sidebar is the user profile 'Kristof Kapitany 3'. The main content area is titled 'ChatGPT 4 2' and contains a settings menu for 'ChatGPT 4' with three options: 'GPT-4' (checked, 'With DALL-E, browsing and analysis', 'Limit 40 messages / 3 hours'), 'GPT-3.5' (unchecked, 'Great for everyday tasks'), and 'Plugins' (unchecked). Below this is a 'ChatGPT Plugins' section with three active plugins: 'Prompt Perfect', 'ScholarAI', and 'Wolfram'. The right side of the interface shows the OpenAI logo and the text 'How can I help you today?'. Below this are four example prompts in rounded rectangles: 'Create a personal webpage for me after asking me three questions', 'Give me ideas about how to plan my New Years resolutions', 'Tell me a fun fact about the Roman Empire', and 'Recommend a dish to bring to a potluck'. At the bottom is a text input field with a microphone icon, the placeholder text 'Message ChatGPT...', and a send button. A red number '1' is placed to the left of the input field. At the very bottom, a small disclaimer reads 'ChatGPT can make mistakes. Consider checking important information.'

# Using your own custom personas

The screenshot displays the ChatGPT interface with the 'Custom instructions' menu item highlighted in green. The 'Custom instructions' panel is open, showing two text areas for defining a persona as a University Professor and setting an academic tone. A 'Thought starters' list is also visible on the right.

**Custom instructions**

What would you like ChatGPT to know about you to provide better responses?

Profession/Role: University Professor  
Responsibilities: Teaching complex subjects, conducting academic research, mentoring students, and publishing scholarly articles.  
Knowledge or Expertise: Subject matter expertise in [Your Academic Field], pedagogical strategies, academic research methodologies.  
Typical Challenges: Engaging students with diverse learning styles, staying updated with the latest research, balancing teaching and

944/1500 Hide tips

How would you like ChatGPT to respond?

Tone and Formality: Academic and informative, yet approachable and engaging.  
Level of Detail: Comprehensive explanations with academic rigor, suitable for higher education.  
Preferred References: Citing recent academic research, educational theories, case studies in education.  
Examples or Analogies: Use analogies that relate to academic concepts and teaching methodologies.

1096/1500

Enable for new chats

Cancel Save

**Thought starters**

- Where are you based?
- What do you do for work?
- What are your hobbies and interests?
- What subjects can you talk about for hours?
- What are some goals you have?

ChatGPT can make mistakes. Consider checking important information.

# Creating a presentation

- **The output format was not right for automatic generation of slides, but it's easy to rephrase the results**

KA You

This is great, but I want to use it directly to generate a ppt. For that reform it, so the text has the title for the slides (without additional messages like "Slide xx:") and the text for slides directly without indicators for me.

For example, in case of:

Slide 6: Administrative Assistance

Highlight ChatGPT's utility in handling routine administrative tasks.

Example: Demonstrate drafting an email to schedule a department meeting, or organizing the framework of a conference using ChatGPT.

Use this form:

Administrative Assistance

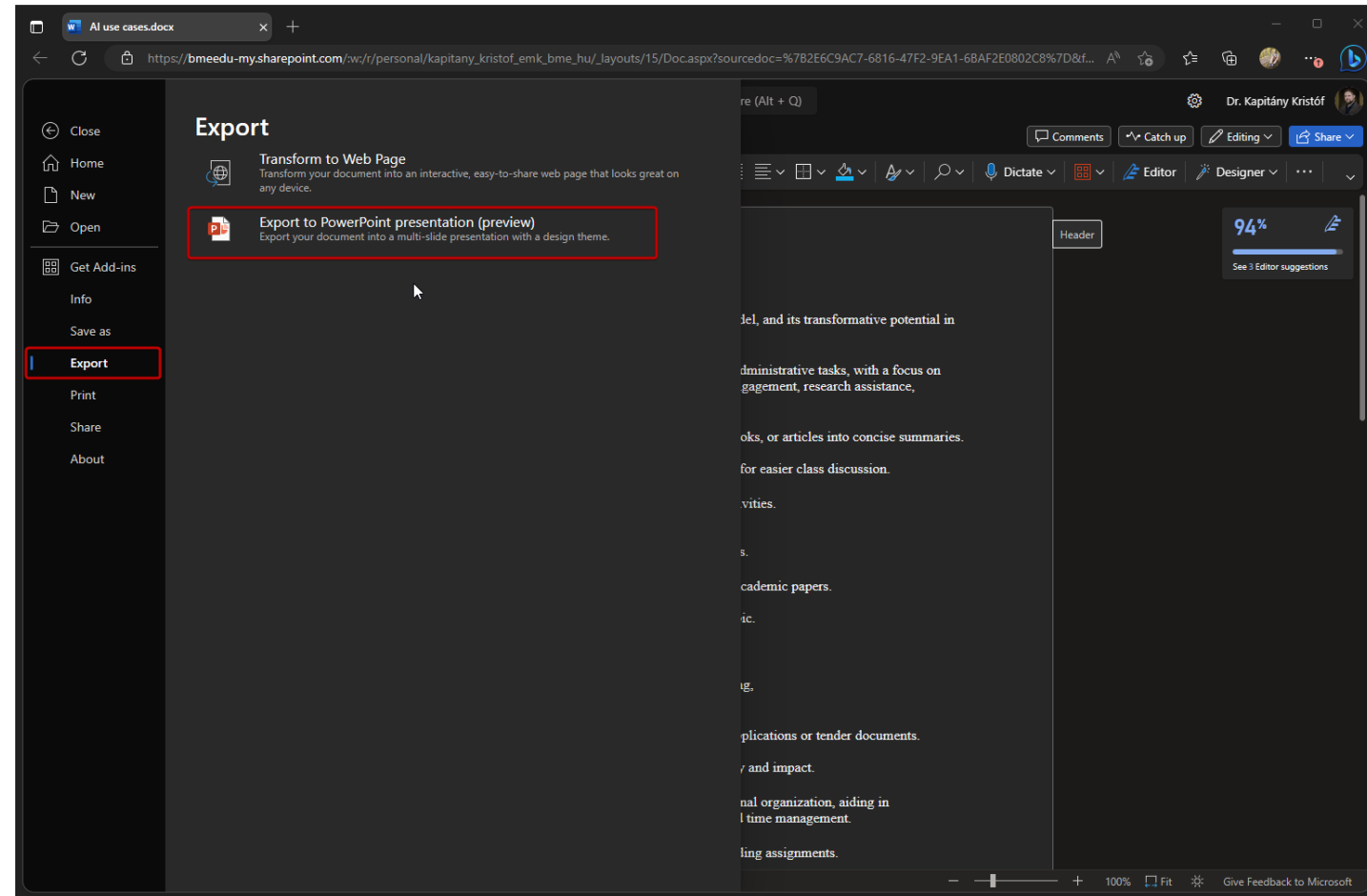
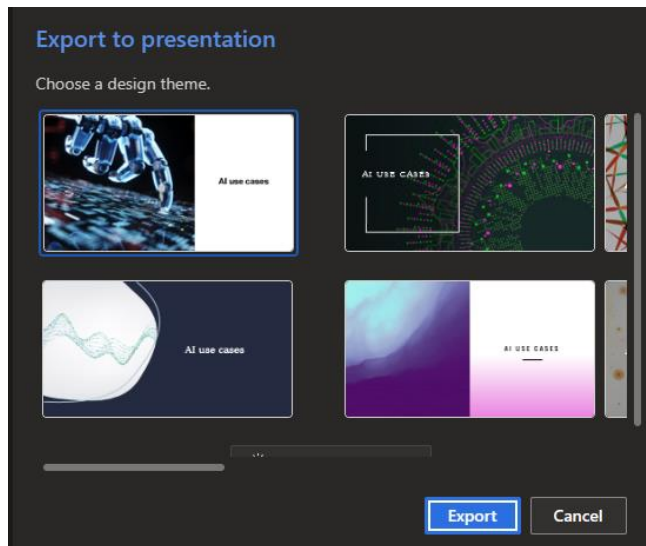
ChatGPT can handle routine administrative tasks.

Example:

- Drafting an email to schedule a department meeting,
- Organizing the framework of a conference

# Creating a presentation

- Copy-Paste it to a **MS Word**, and open it in the **browser** version, in **Edge**.
- Export the text into a **PowerPoint** presentation



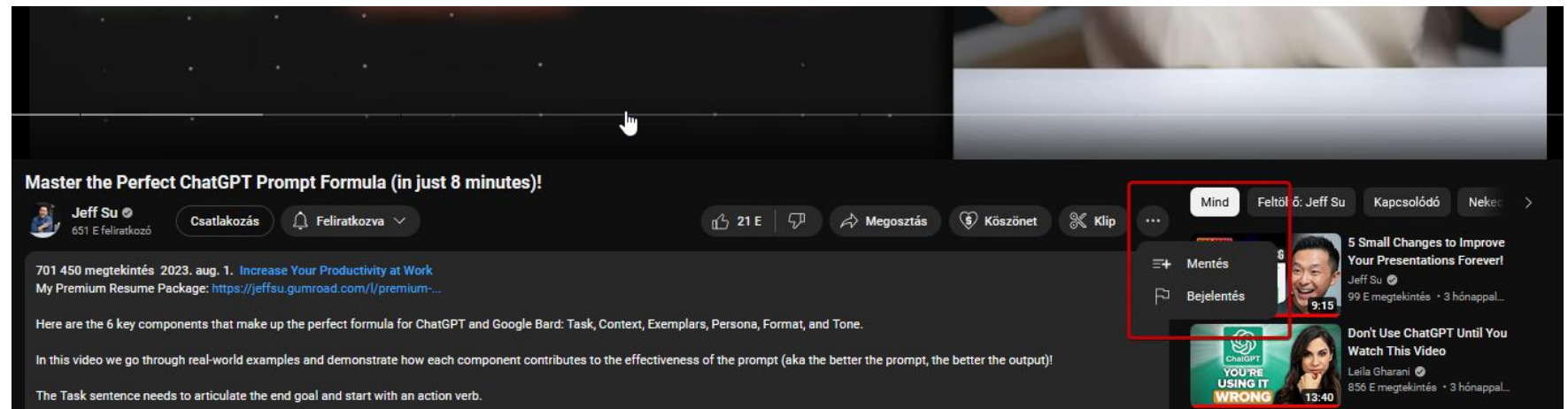
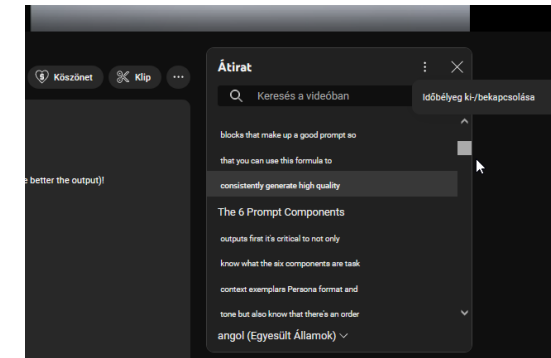
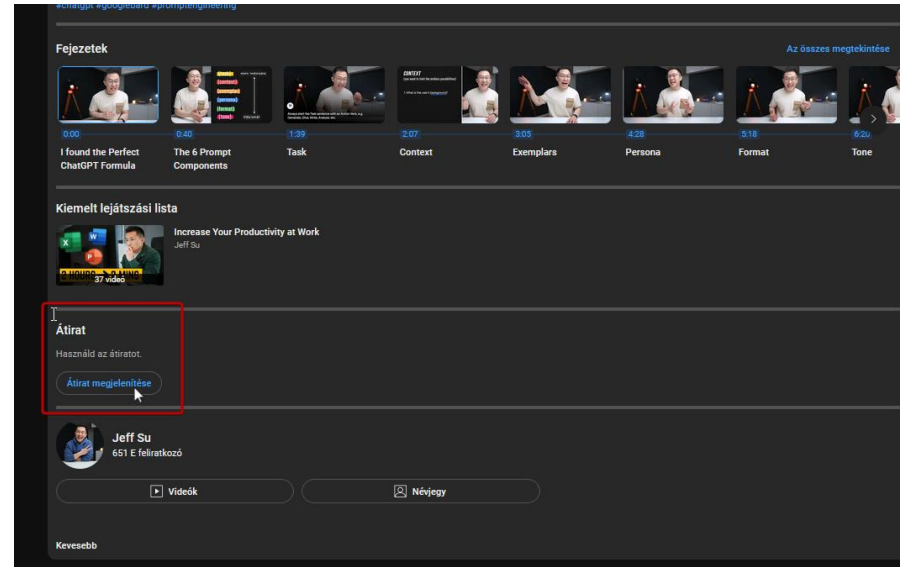
# Summarize a YouTube video

- You have found a video to work with
- Copy-Paste it's transcription
- Ask ChatGPT to summarize it according to your needs
- ...
- Profit



# Summarize a YouTube video

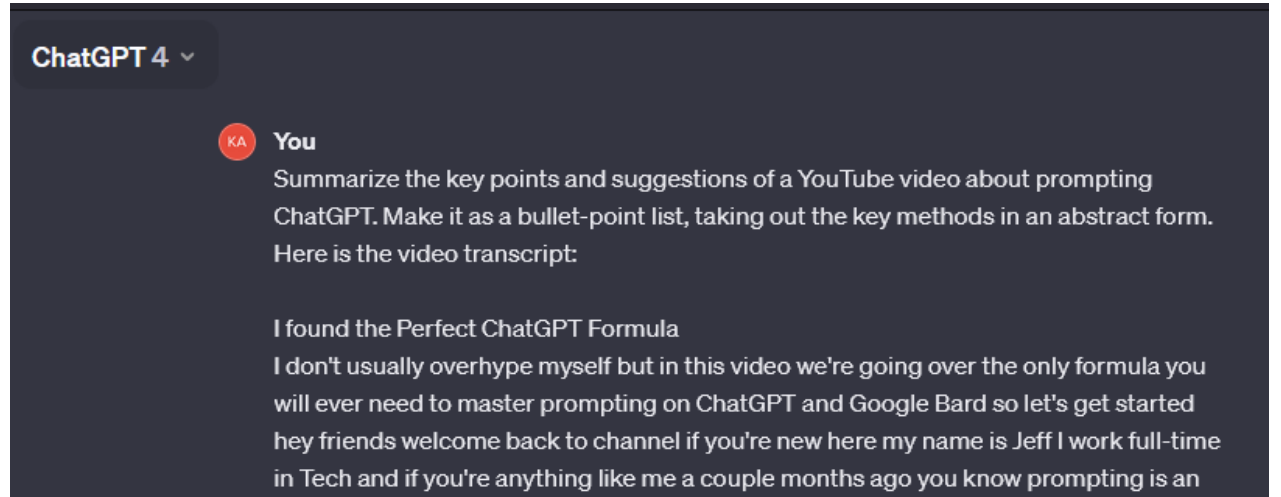
- You have found a video to work with
- Copy-Paste it's transcription
- Ask ChatGPT to summarize it according to your needs
- ...
- Profit



<https://www.youtube.com/watch?v=jC4v5AS4RIM>

# Summarize a YouTube video

- You have found a video to work with
- Copy-Paste it's transcription
- Ask ChatGPT to summarize it according to your needs
- ...
- Profit





# The Perfect ChatGPT Prompt Formula

## 1. Task:

*Example:* "Generate a three-month training program."

## 2. Context:

*Example:* "I'm a 70kg male looking to gain muscle, with gym access twice a week."

## 3. Exemplars:

*Example:* "Rewrite this resume bullet point using 'I accomplished X by Y leading to Z' structure."

## 4. Persona:

*Example:* "Be a physical therapist experienced in athletic recovery."

## 5. Format:

*Example:* "Output a table with headers: feedback, team responsible, priority."

## 6. Tone:

*Example:* "Write in a friendly yet confident tone."



# Matlab AI Chat Playground

## AI Chat Playground

+ New



AI

Hello! Whether you're checking out MATLAB for the first time or have been using it for years, I'm here to answer your questions and provide coding tips.

KK Kristof Kapitany

write a code for creating noisy x-y coordinates around an attenuated sine wave, and plot the result on a line plot with markers



AI

Certainly! Here's an example code that generates noisy x-y coordinates around an attenuated sine wave and plots the result on a line plot with markers:

```
% Parameters
amplitude = 1; % Amplitude of the sine wave
frequency = 1; % Frequency of the sine wave
attenuation = 0.5; % Attenuation factor
noise_std = 0.1; % Standard deviation of the noise

% Generate x values
```

Enter prompt here

Generated code and text might be inaccurate. Validate before use. [About](#) [Discuss](#)



CODE

RUN

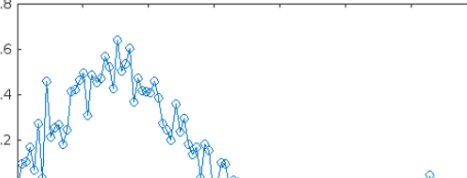
```
% Parameters
amplitude = 1; % Amplitude of the sine wave
frequency = 1; % Frequency of the sine wave
attenuation = 0.5; % Attenuation factor
noise_std = 0.1; % Standard deviation of the noise

% Generate x values
x = linspace(0, 2*pi, 100);

% Generate y values (attenuated sine wave + noise)
y = attenuation * amplitude * sin(frequency * x) + noise_std * randn(size(x));

% Plot the result
plot(x, y, 'o-')
xlabel('x')
ylabel('y')
title('Noisy x-y coordinates around an attenuated sine wave')
```

Noisy x-y coordinates around an attenuated sine wave



# Matlab AI Chat Playground

## AI Chat Playground

+ New

AI

Hello! Whether you're checking out MATLAB for the first time or have been using it for years, I'm here to answer your questions and provide coding tips.

KK Kristof Kapitany

write code that loads in all images from a folder one-by-one, applies sobel filters on the images and then creates a three-column subplot for the first 3 images to show how that looks like. The first column should be the original image, and the second and third is the x and y sobel filtered images

AI

Sure! Here's an example code that loads all images from a folder, applies Sobel filters on the images, and creates a three-column subplot for the first 3 images:

```
% Specify the folder path
folder = 'path/to/folder';

% Get a list of all image files in the folder
fileList = dir(fullfile(folder, '*.jpg')); % Change the file extension if needed
```

Enter prompt here

Generated code and text might be inaccurate. Validate before use. [About](#) [Discuss](#)

CODE RUN

```
% Specify the folder path
folder = 'path/to/folder';

% Get a list of all image files in the folder
fileList = dir(fullfile(folder, '*.jpg')); % Change the file extension if needed

% Create a figure for the subplots
figure;

% Loop through the first 3 images
for i = 1:min(3, numel(fileList))
    % Read the image
    img = imread(fullfile(folder, fileList(i).name));

    % Apply Sobel filter in the x-direction
    sobelX = imfilter(img, [-1 0 1; -2 0 2; -1 0 1]);

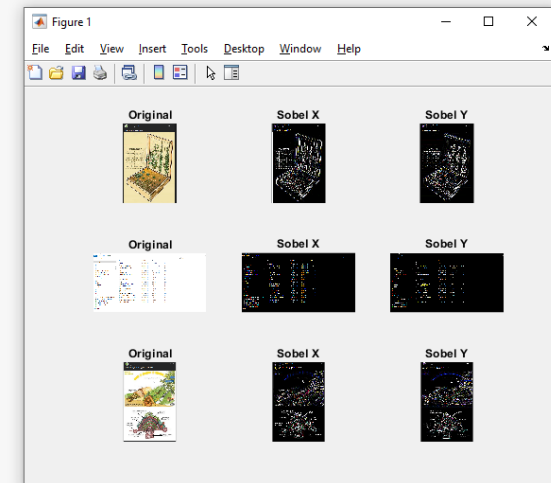
    % Apply Sobel filter in the y-direction
    sobelY = imfilter(img, [-1 -2 -1; 0 0 0; 1 2 1]);

    % Create the subplot
    subplot(3, 3, (i-1)*3 + 1);

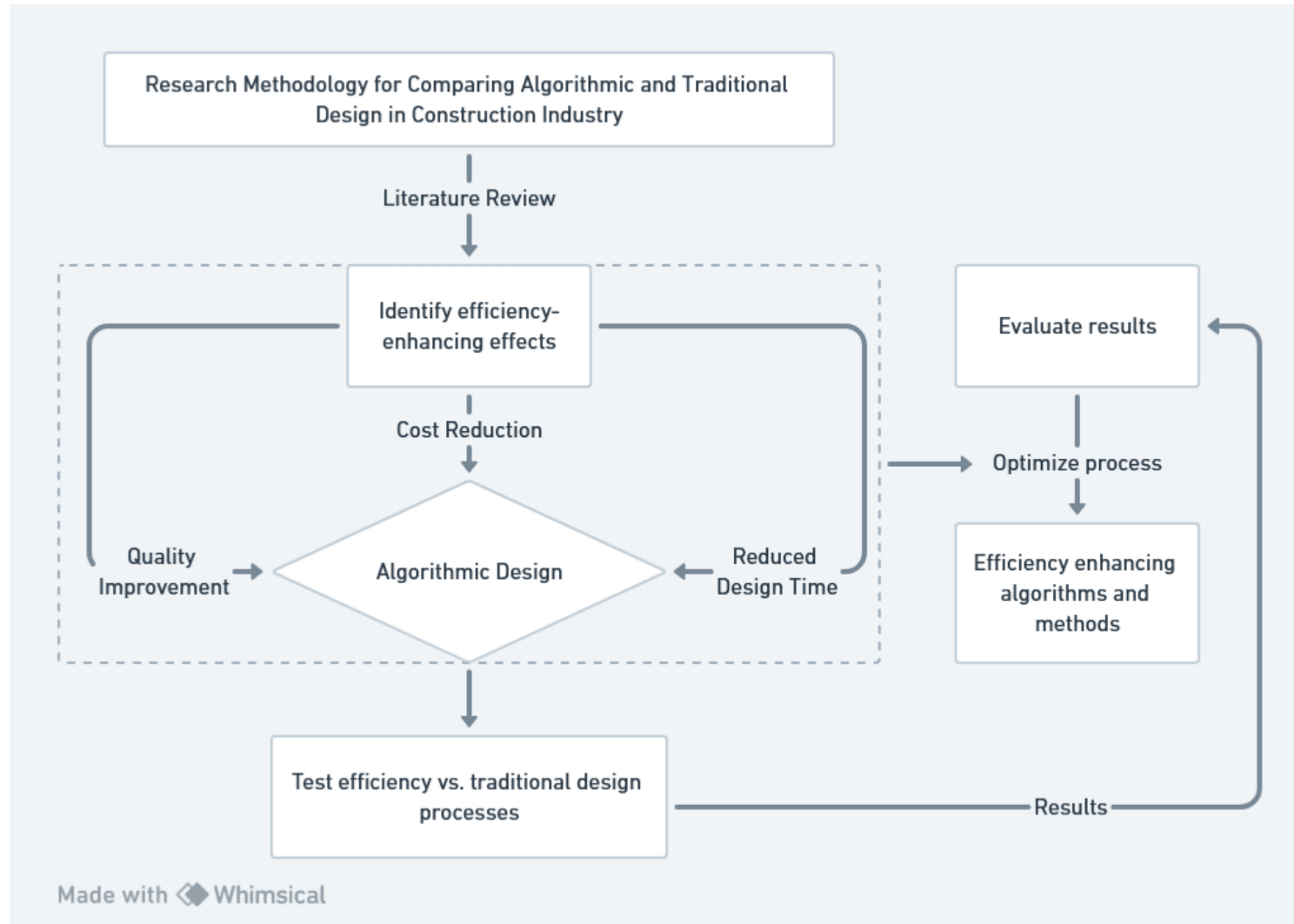
    % Display the original image
    imshow(img);
    title('Original');

    % Display the x Sobel filtered image
    imshow(sobelX);
    title('Sobel X');

    % Display the y Sobel filtered image
    imshow(sobelY);
    title('Sobel Y');
end
```



# Generate diagrams/flowcharts/mind maps



Generate a diagram presenting the methodology for research. The research should compare the "algorithmic design" and "traditional design" use cases in the construction industry. After a literature review, identify the efficiency-enhancing effects regarding: 1) quality improvement, 2) cost reduction, 3) reduced design time. These should be the base of developed algorithms, which are tested for efficiency. The research should evaluate the results and optimize this process.

<https://whimsical.com/>

# Generate diagrams/flowcharts/mind maps

