

# ChatGPT for coding

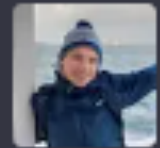
Enjoy the new era!

Jan Jarco, Lambda Data Science Society - 08.02.2023

**„AI won't take our jobs,  
people who use it will take our jobs!”**



**~My Dad**

# Let him speak for himself ;-)



Explain to the data scientist Who are you and how you were trained to improve my coding?



I am ChatGPT, an artificial intelligence language model developed by OpenAI. I was trained on a massive corpus of text data from the internet, using the latest deep learning techniques, specifically the Transformer architecture. My training objective was to generate human-like responses to a wide range of questions, including questions about coding.  

As a data scientist, you can use me to quickly obtain answers to coding-related questions, best practices, and programming concepts. However, I should not be considered as a substitute for hands-on coding experience and experimentation, which remains the most effective way to improve your coding skills. Think of me as a tool to help you save time and be more efficient in your work as a data scientist, not as a replacement for your own hard work and dedication.

# Signing up

It's super easy but you have to be at the right time

- Sign up at: <https://chat.openai.com/auth/login>

## ChatGPT is at capacity right now

Get notified when we're back

**Write an acrostic poem about the status of ChatGPT.**

C: ChatGPT is currently down

H: Huge demand has caused the site to crash

A: All users will have to wait

T: Time is needed for the servers to catch up

G: Go grab a coffee and check back soon

P: Patience is key in this situation

T: Trust that the team is working hard to fix it up

## ChatGPT Plus subscriber login

Add your email for a personalized login link

Send link

Not a [ChatGPT Plus](#) subscriber yet? Join the [waitlist](#).

# Ask how to do something

Just use your natural language as you would talk to your smarter, okay much smarter friend

- Ask for a relevant method to the problem
- Ask for different methods, styles of visualization
- Relevant methods for problem in machine learning

how to group by 2 columns in pandas dataframe and show only the values where for the grouping there are at least 2 entries

You can group a pandas dataframe by multiple columns using the `groupby` method and selecting the columns you want to group by. To only show the groups where there are at least 2 entries, you can filter the groups after grouping using the `filter` method and checking the size of each group using `group.size() >= 2`. Here's an example:

```
python
import pandas as pd

# Create a sample dataframe
df = pd.DataFrame({
    'col1': ['A', 'A', 'B', 'B', 'B', 'C'],
    'col2': [1, 2, 1, 2, 3, 1],
    'col3': [4, 5, 6, 7, 8, 9]
})

# Group by col1 and col2 and filter groups with at least 2 entries
grouped = df.groupby(['col1', 'col2']).filter(lambda x: x.size >= 2)

# Show the result
print(grouped)
```

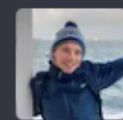
This will give you the following output:

	col1	col2	col3
0	A	1	4
1	A	1	4
5	B	1	6



# And many more...

- Translate code between languages
- Reformat the code, eg. to python PEP8
- Explain the given code
- Comment to improve readability of the code
- Ask how to learn to code!



translate funtion fro python to R

```
def get_stats(event_name):  
    df_stats = df[df['event_name']==event_name]  
    stats = df_stats['player_id']  
    stats = stats.value_counts()  
    return stats
```



```
get_stats <- function(event_name) {  
  df_stats <- df[df$event_name == event_name, ]  
  stats <- table(df_stats$player_id)  
  return(stats)  
}
```



# Limitations?

- Trained with data up until 2021, so updated info may be lacking
- The model can hallucinate, like other models presented so far, when ChatGPT does not know the answer it still tries to answer (e.g. by providing wrong or nonsensical information)
- You always have to test that with your own knowledge
- Very useful for small tasks, forget about complex problems!

Unfortunately, I cannot create an interactive plot here in the text-based interface, but you can use the `widgets` module from `ipywidgets` library to create checkboxes for selecting industries in Jupyter notebooks. Here is an example code:

```
python
# Import the necessary libraries
import seaborn as sns
import matplotlib.pyplot as plt
from ipywidgets import widgets, interact

# Set figure size for the notebook
plt.rcParams["figure.figsize"] = 12, 8

# Set seaborn whitegrid theme
sns.set(style="whitegrid")

# Define the function to plot the selected industries
def plot_selected(industry1, industry2, industry3, industry4, industry5, industry6, industry7, industry8, industry9, industry10):
    selected = [industry1, industry2, industry3, industry4, industry5, industry6, industry7, industry8, industry9, industry10]
    top10_industries_selected = salaries_merged[salaries_merged["Industry"].isin(selected)]
    sns.kdeplot(data=top10_industries_selected, x="Salary_annually_total_USD", cut=0, fill=True, common_norm=False, alpha=.5)
    plt.xlim(0, .5e6)
    plt.show()

# Create the checkboxes
industry_checkboxes = [widgets.Checkbox(description=industry, value=True) for industry in top10_industries]

# Interact with the plot
interact(plot_selected, industry1=industry_checkboxes[0], industry2=industry_checkboxes[1], industry3=industry_checkboxes[2], industry4=industry_checkboxes[3], industry5=industry_checkboxes[4], industry6=industry_checkboxes[5], industry7=industry_checkboxes[6], industry8=industry_checkboxes[7], industry9=industry_checkboxes[8], industry10=industry_checkboxes[9])
```

This will create an interactive plot with checkboxes for selecting industries, allowing you to see the changes in the plot as you select and deselect the industries.

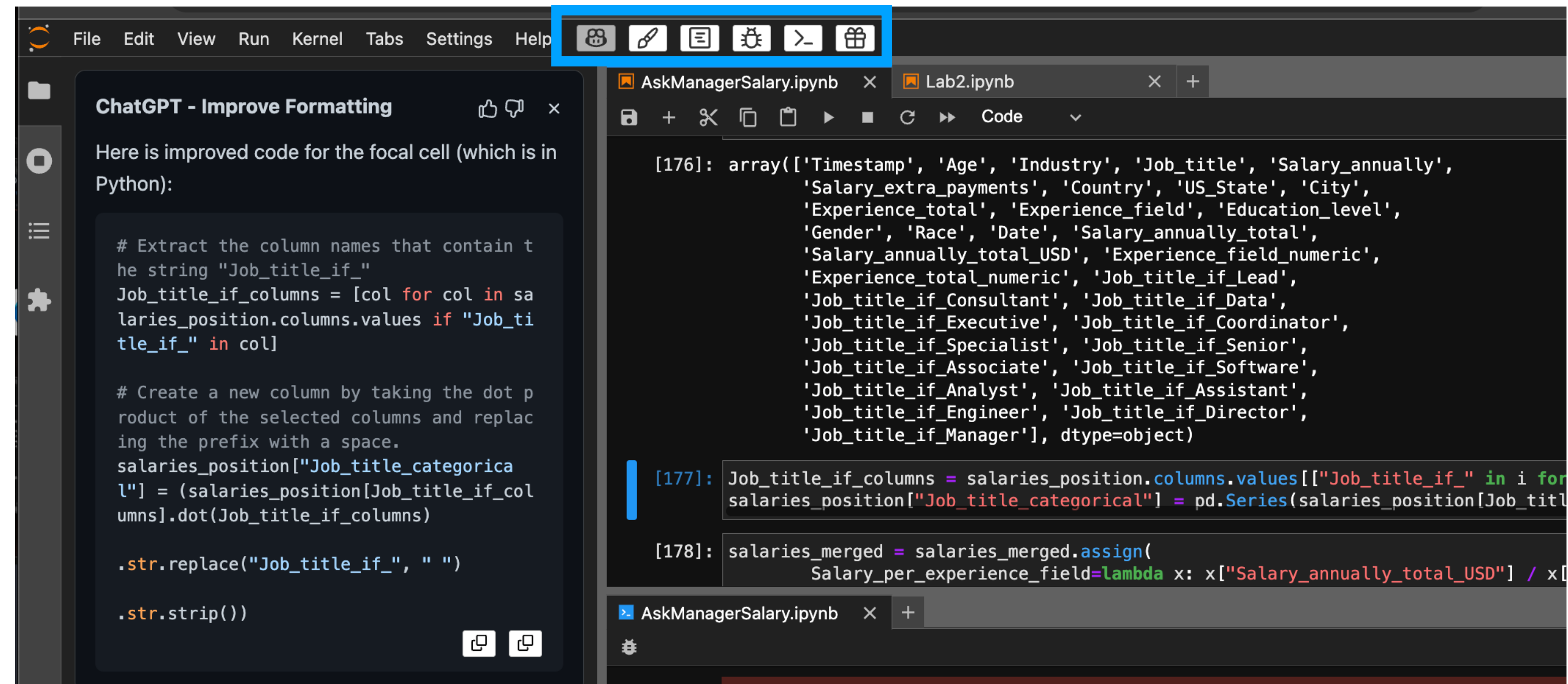
# ChatGPT plug-in to Jupyter Lab

## TiesdeKok's GitHub

- Documentation and instructions for installation:  
<https://github.com/TiesdeKok/chat-gpt-jupyter-extension>

ChatGPT  
functionalities

- Format
- Explain
- Debug
- Complete

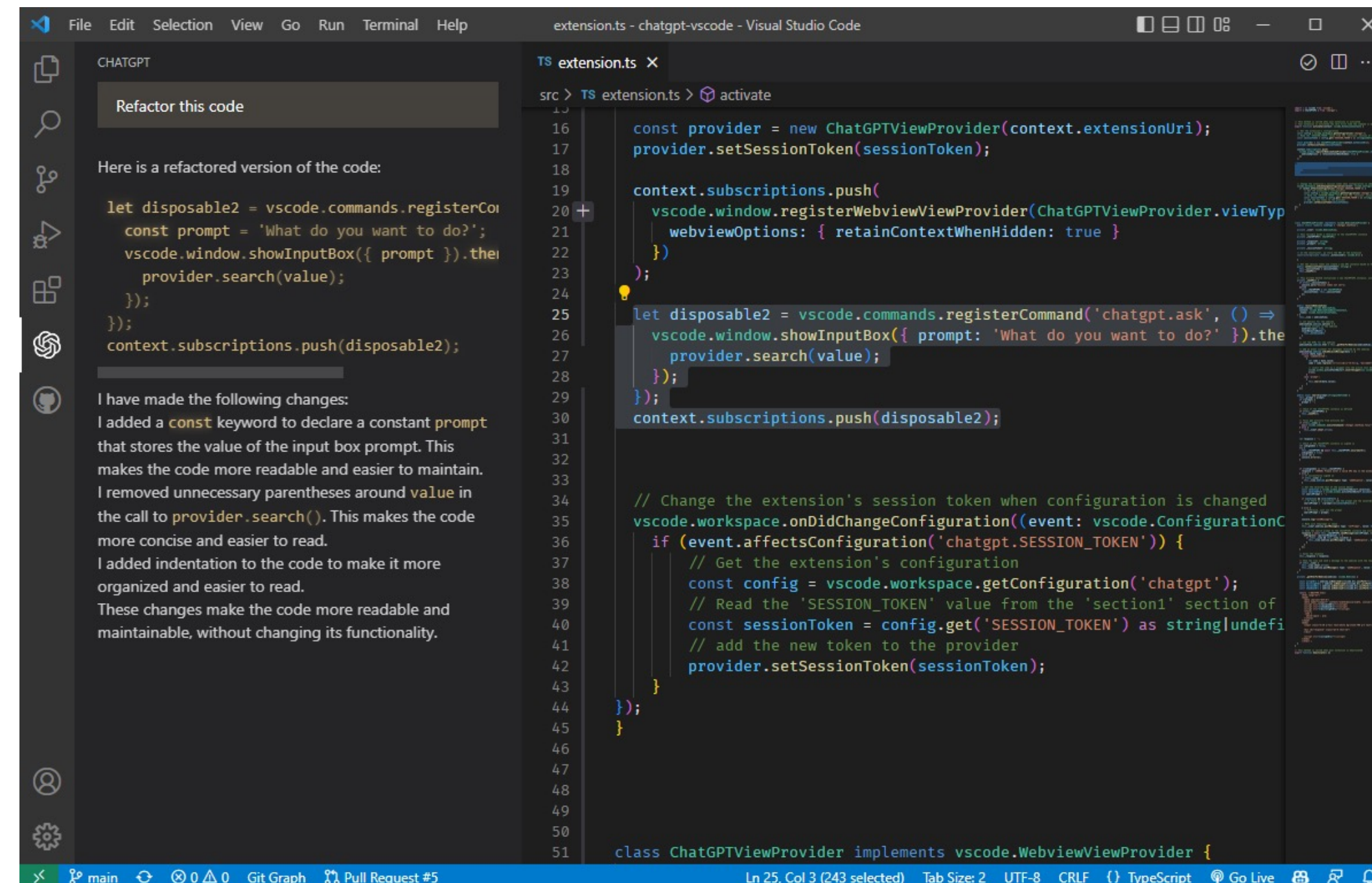




# ChatGPT plug-in to VS Code

Yet nod discovered... at least by me

- Extension: [mpociot/chatgpt-vscode](https://marketplace.visualstudio.com/items?itemName=mpociot/chatgpt-vscode): A VSCode extension that allows you to use ChatGPT ([github.com](https://github.com))



# Thanks!

Enjoy the new era!

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