The Data Analysis Working Group @ IRyA

Welcome!

The Data Analysis Working Group @ IRyA

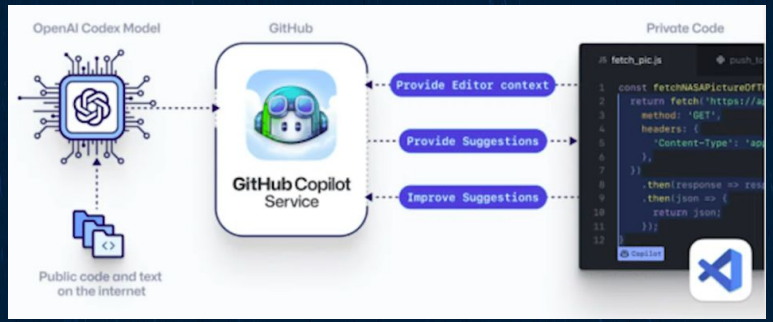
Monthly meetings to discuss data-related aspects such as

- Visualisation: pretty plots = better science = more money?
- Automation/reproducibility: so much data, so little time.
- Collaboration: none of is as dumb as all of us.
- Open science: because it's not 1785 anymore.
- Statistics ("60% of the time, it works every time." – Brian Fantana)

Want to join our mailing list? Send me an email!

What is it?

- Like an autocomplete tool that works with your IDE.
- The “autocomplete” suggestions can span **multiple lines of code**
- Suggestions can also be generated from comments you make in the code.
- Suggestions are based on AI analysis of your code (and everyone else’s).



Will it work for me?

- What languages does it support? Python, Ruby, TypeScript, some others.
- At present, Github Copilot officially only works with the following IDEs:

  VisualStudio, Neovim, VS Code, JetBrains

- Unofficially, you can also set it up for Emacs. Look for your favourite IDE.

How can I get it?

- Get yourself a Github account first!
- Use your IRyA email address to get the educational discount (FREE)
- Follow instructions either on Github or watch YouTube videos (example)

Demo: nvim + Python

- Type “import “ and watch it complete “numpy as np”
- Type a simple comment and watch it complete a bunch of lines: “Generate N Ga” and watch it complete “ussian random numbers with mean 0 and variance 1”Keep pressing Enter and tab completing whenever it suggests something.It will generate the numbers, then plot them, then allow you some options to even save the figure.
- The same thing can be demonstrated by writing out the name of a function or a class. Try “def get_random_” and watch it complete
- SNIPPET COMPLETION: It also helps autocomplete certain constructions like try/except, if __name__ == , for
- Finally, test out some astro-specific lines:
  Type “class radiative_” and tab complete for fun.Type “from astropy.co” and tab complete to get SkyCoord.Now, type “def icrs_” and tab complete. It will use SkyCoord to write the rest of the function.Now, press enter and it will automatically suggest the inverse function.

Alternative: Replit + Ghostwriter

- Replit (repl.it) is an online IDE interface for programming. Free to join, and you can also get an academic discount ($0) if you use your IRyA account.

- Ghostwriter is an AI pair-programming companion like Github Copilot. It is optionally installable onto your Replit account.
  Is there a free version? Not sure, maybe for educational purposes (e.g., with the IRyA account). Any volunteers that can investigate?