RSSC AI Lab – Setup Instructions

Setup Instructions

There's a couple of housekeeping items to do the day before our lab, mostly some downloads and installs. You may have noticed that this folder is a little light on content. That's because there's at least a couple of you Type-A overachievers in the group that would rip through the entire course before we had a chance to meet. So… we'll get all the setup things done beforehand, and we'll update the folder just before our lab starts so you can download everything that morning. See you Saturday!

1. Download and Install Visual Studio Code (VSCode)

(main download link): https://code.visualstudio.com/download

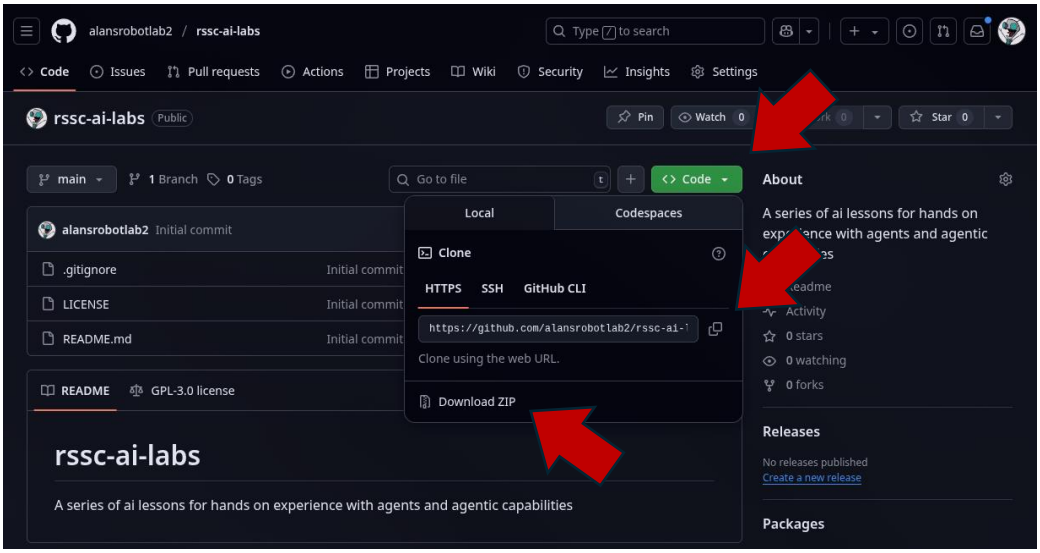
If you already have this installed, that's great! If you haven't, there are links to the appropriate downloads for Windows and Mac users, and even for Linux if you're extra like that.

2. Install UV

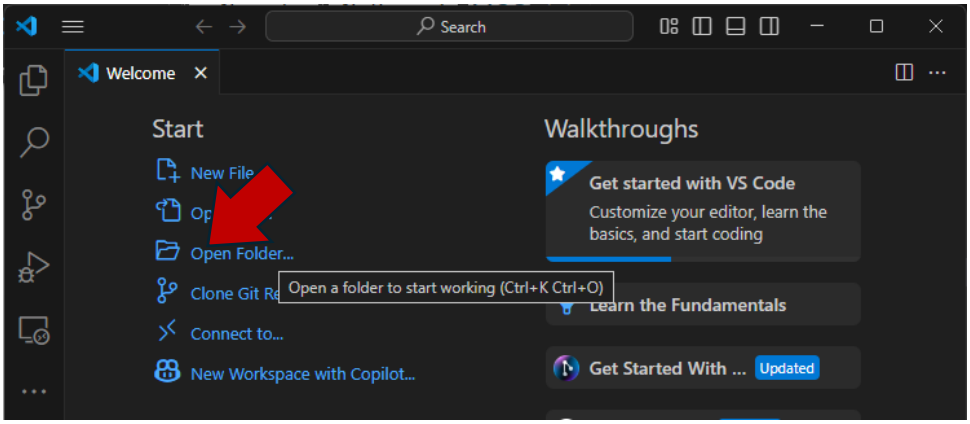
a. https://docs.astral.sh/uv/getting-started/installation/
   i. Follow the instructions that are appropriate for your operating system.
   ii. Either option involves opening a command prompt and pasting in the install command
   iii. To get the command prompt in windows: Click start then type in cmd, then select terminal from the search results
   iv. To get to the command prompt in macs: Click Command + Spacebar to open spotlight, then type in terminal, select terminal from the search results

3. Download or Clone the RSSC AI Labs Repository

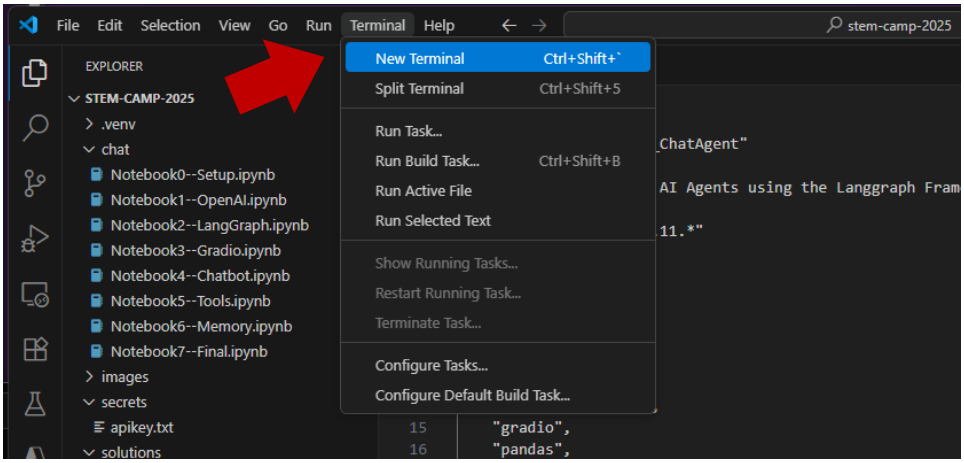
a. Click here to go to the rssc-ai-labs github repository
b. Click on the green Code button, then either:
   a. In a terminal, run a "git clone https://github.com/alansrobotlab2/rssc-ai-labs" to create a copy of the repository on your own machine
   b. or click on download zip to grab a copy of the entire directory



4. Open VSCode then Open the folder you just downloaded



5. Open up a terminal in VSCode



6. Environment Setup

a. Type in "`uv sync`" in the terminal window. This will create our virtual python environment with all required dependencies. The environment is defined by a file called pyproject.toml. You can open it up in vscode if you'd like to see what's in it. This could take a few minutes depending on your internet speeds.

b. Install all the extensions required by the lab. Copy and paste all the lines below into the terminal window then press enter. This will install a handful of vscode extensions that will help us with our labs.

```
code --install-extension github.copilot
code --install-extension github.copilot-chat
code --install-extension ms-toolsai.jupyter
code --install-extension ms-toolsai.vscode-jupyter-cell-tags
code --install-extension ms-toolsai.jupyter-keymap
code --install-extension ms-toolsai.jupyter-renderers
code --install-extension ms-toolsai.vscode-jupyter-powertoys
code --install-extension ms-python.python
code --install-extension ms-python.vscode-pylance
```

7. Get set up to run a model

So most importantly you need to have access to a Large Language Model. You have two main options – either run a model locally for free using ollama, or throw a few bucks at OpenAI or Anthropic or Google to access a model through their API. I don't have any direct experience with Anthropic or Google yet so you're on your own if you go that route though.

a. The ollama route: install ollama on your machine by following these instructions: https://ollama.com/download

   Then open up a terminal and take ollama out for a spin. You're welcome to use any model you'd like, however if you're looking for suggestions I'd recommend one of the following. They're both great models and support tool use, which will come in handy:

   ollama run qwen3:1.7b
   ollama run qwen3:4b

b. The open ai route: create an account over at openai and get set up to be able to call their models over the web: https://platform.openai.com/api-keys

   You'll generate an api key that we'll paste into the code in order call their models.

8. Bonus – Get Set Up with Github Copilot

"Vibe Coding" is the newest tool available for anyone who writes code, from tinkerers like myself to real full stack developers. Github Copilot is available even with a free plan to anyone with a github login.

Go ahead and check out the setup instructions here to get set up with a free account.

https://docs.github.com/en/copilot/get-started/quickstart

https://code.visualstudio.com/docs/copilot/setup