

Python and AI

Wrangle a dataset, then talk to a local model with Python scripts

THE QUESTION

Why is Python the default language for working with data and AI?

THE PROMISE

Short, readable scripts that run on your own computer.

OUR JOB

Clean a messy dataset, then let a local agent answer questions about it.



Why Python **for AI**

Your script: Python

Readable code that says what you want



Libraries

pandas, NumPy, scikit-learn, PyTorch, Transformers



Compiled code

C, C++ and GPU code that does the heavy math

- Readable: code that is close to plain English.
- A huge ecosystem for data, machine learning and models.
- The glue: Python steers fast compiled libraries.
- Local-model tools ship Python libraries, including Ollama.
- Free and open source.

Python is the glue. The heavy math happens in compiled code underneath.

From raw data to answers

Load

Clean

Transform

Summarize

Ask

MESSY VALUE	CLEANED
Harbor	Harbor
FICTION	Fiction
1,204	1204
(blank)	None (missing)

```
text.strip().lower()
text.replace(", ", "")

row["loans"] is None

seen = set()
if key in seen:
    continue
```

Never change the raw file. Write a clean copy, so you can always start again.

What to watch for **in the demo**

Python ideas

- Functions and docstrings
- Lists and dictionaries
- Reading a CSV with the csv module
- Loops, sorting and grouping
- Checking for missing values

Agent ideas

- An agent is a model, tools and a loop
- Tools are plain Python functions
- Your script runs the tools
- Check arguments before running
- Step limits, read-only tools, logs

Predict: when an agent calls a tool, who actually runs the code, the model or your script?

Write down your answer. We'll check it in the demo.