Re.ai Connecting Low-Skilled Adults to Remote Opportunities

LESSON 4.2 · 1.5 HOURS

AI for data analysis: finding insights without being a data scientist

IN THIS LESSON

- Why data analysis matters in any job
- Asking data questions in plain English
- Turning numbers into a clear story
- Doing it ethically and safely



L4.2 Learning Objectives

By the end of this lesson you will be able to:

- Use an AI data tool to explore and analyse a spreadsheet or CSV file
- Write specific questions about totals, trends, comparisons and outliers
- Choose a suitable chart and write a plain-language summary of findings
- Apply GDPR basics: anonymise personal data and check tool terms

THIS LESSON

L4.2

Duration: 1.5 hours

Practice: EX 4.2

Quiz: 5 questions, 70% to pass

Key Terms

The words you will meet in L4.2, in plain language.

Dataset

A collection of related data, usually arranged in rows and columns.

CSV

'Comma-separated values': a simple, universal file format for tables.

Insight

A clear, useful finding from data that helps someone make a decision.

Trend

A pattern of change over time, such as rising or falling sales.

Outlier

An unusual value that stands far apart from the rest. Often worth investigating.

Dashboard

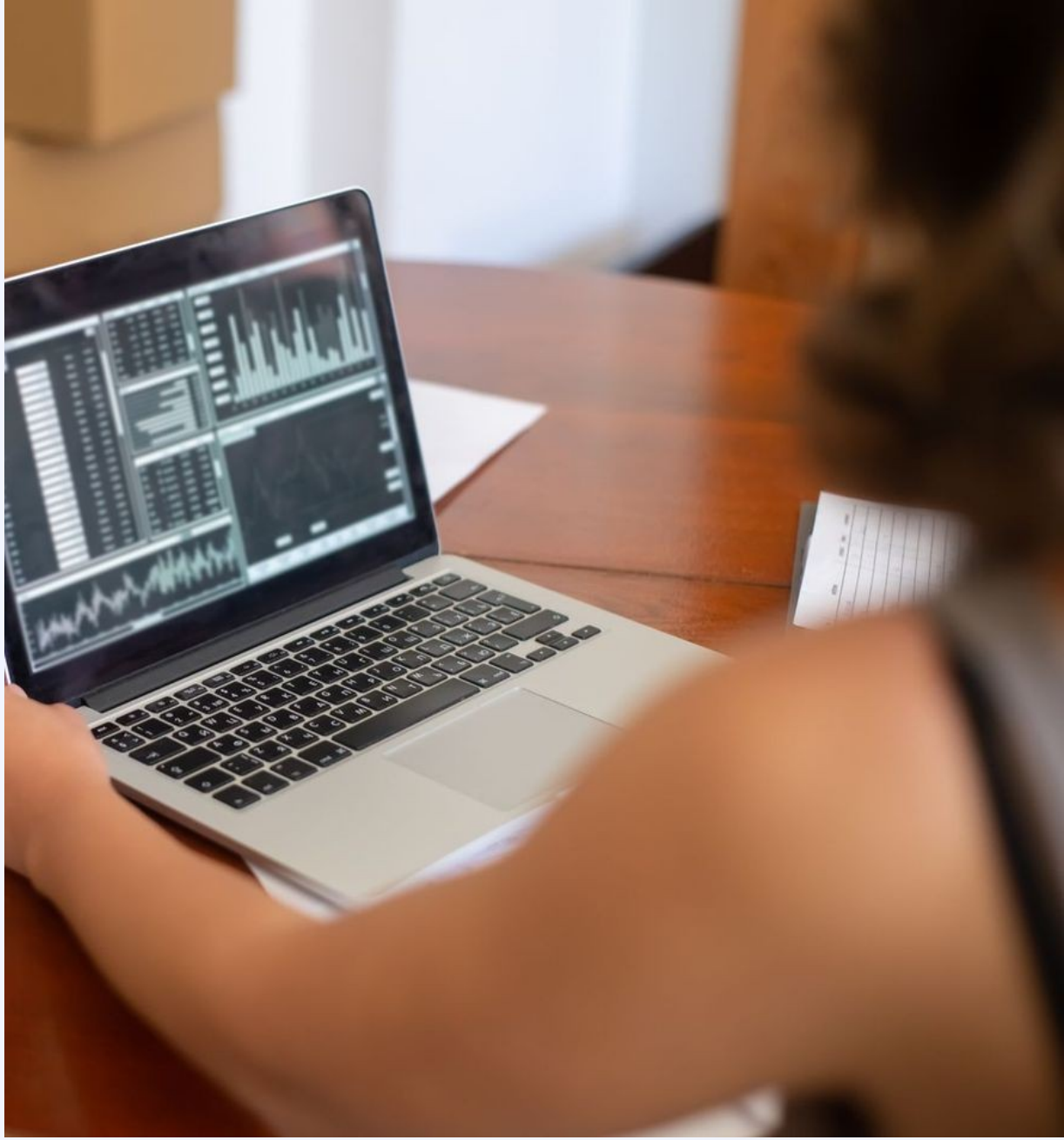
A visual summary of key numbers and charts, brought together in one view.

Every spreadsheet hides decisions

FROM NUMBERS TO DECISIONS

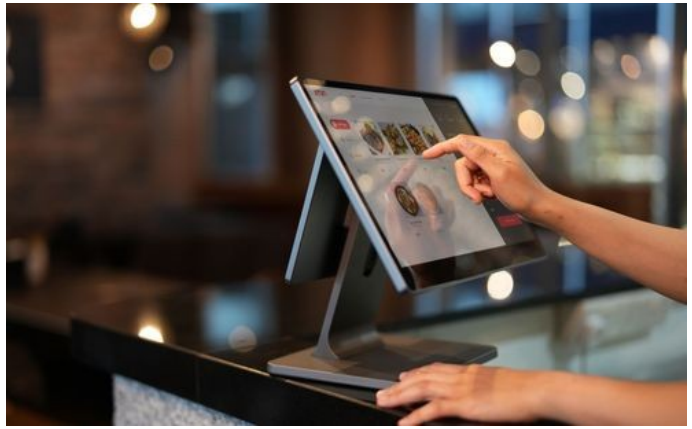
A sales spreadsheet is just numbers until someone asks 'which products should we stock more of?' Analysis answers that.

Reading data once needed coding or statistics training. AI tools have removed most of that barrier.



Where business data comes from

You don't need fancy data. Most organisations already sit on plenty, including operations data like stock and costs.



Sales and orders

What sold, when, to whom and for how much: the heart of most business analysis.



Website and social

Visits, clicks and engagement that show what customers are interested in.

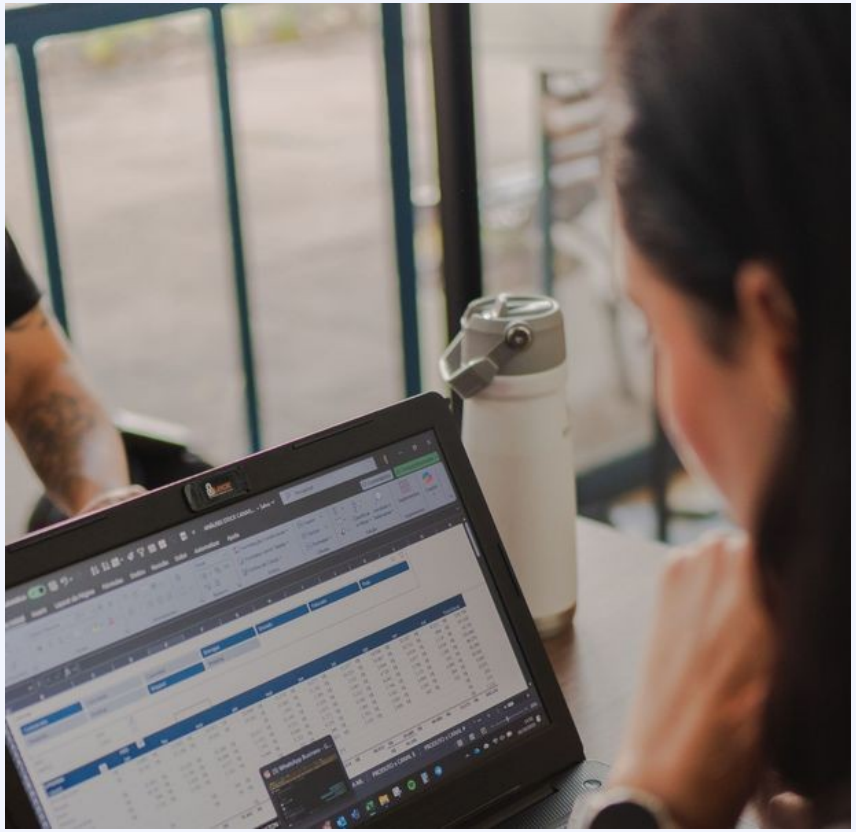


Surveys and feedback

Reviews, ratings and questionnaires: the 'why' behind the numbers.

How AI data tools work

Tools like Julius AI let you analyse data by chatting with it.



You upload a data file

A spreadsheet or CSV, for example a retail sales export, is loaded into the tool.

You ask in plain English

Type 'What were the top three products last quarter?' instead of writing any code.

It works and explains

The AI runs the analysis, draws charts and explains the result. You decide which questions to ask.

The AI does the calculation. Your job is the question and the judgement.

Analyse a dataset, step by step

From raw file to clear findings in five steps, with no spreadsheet formulas.

1

Upload the data

Drop in your CSV or spreadsheet. The tool reads the columns and rows.

2

Get to know it

Ask 'what's in this data?' to see the columns, time range and size.

3

Ask focused questions

One clear question at a time: totals, trends, comparisons or unusual values.

4

Create charts

Ask for a bar or line chart of the key result to make it easy to see.

5

Summarise the insights

Write a short plain-language summary of the top findings for a decision-maker.

Tool: Julius AI. This mirrors exactly what you'll do in EX 4.2.

The questions worth asking

Good questions

A

Totals and averages

'How much did we sell in total? What's the average order value?'

B

Trends over time

'How have sales changed month by month?'

C

Comparisons

'Which region or product performed best?'

D

Outliers

'Were there any unusual spikes or drops?' Surprises often hide the real story.

Prompts that get good answers

Like chatbots, data tools reward clear, specific questions.

Clear and specific

- 'Top 3 products by revenue in Q4'
- One question at a time, each easy to check
- 'Show me the numbers behind this chart'
- 'Give me a chart and a one-line takeaway'

Vague

- 'What sold well?'
- Five questions packed into one prompt
- Accepting a chart without checking it
- 'Analyse everything'

Name the exact column or period: vagueness gets vague results.

Choosing the right chart

The right chart makes a finding obvious. Match the chart to the question.

Chart	Best for	Example
Bar chart	Comparing categories	Sales by product, region or month
Line chart	Trends over time	How weekly sales rise or fall over a year
Pie chart	Parts of a whole, with only a few slices	Share of total sales by three shops
Table	When exact numbers matter more than the shape	Price list or top 10 orders

Tip: if a chart needs a long explanation, pick a simpler chart.

From numbers to a story

Insights only matter if people act on them. Wrap your numbers in a clear story.

1

Lead with the finding

Start with the point, for example 'Three products drove most of last quarter's sales'. Then show the chart.

2

Say why it matters

Connect it to a decision: 'so we should keep these in stock and feature them on the homepage'.

3

Keep it plain

Avoid jargon. A 150-word summary anyone understands beats a wall of statistics.

A decision-maker wants 'so what?' more than 'here's a chart'.

Insight vs vague observation

The same data can produce a useful insight or a useless one. Spot the difference.

A real insight

- 'Sales fell 20% in March, driven by one region'
- Names the number, the period and the cause
- Points to a clear next action

A vague observation

- 'Sales were a bit lower recently'
- No numbers, no timeframe, no cause
- Leaves the reader guessing

Aim for the left column: specific, useful and tied to a decision.

Analyse data ethically and safely

If data identifies real people, treat it as sensitive by default.



Anonymise personal data

Remove names, emails and IDs before analysis whenever you can. You rarely need them.



Respect the GDPR

Personal data must be handled lawfully, kept secure and used only for the purpose agreed.



No secrets in public tools

Never upload confidential or personal data to a tool whose terms you haven't checked.



Sanity-check the AI

AI can misread messy data. Always verify surprising results before you report them.

Reference: GDPR, Regulation (EU) 2016/679.

Check Your Understanding

Try answering these in your own words before moving on.

What does an AI data tool let you do without writing any code?

Give an example of a specific, well-phrased data question.

Which chart would you use to show a trend over twelve months, and why?

Name one thing you must do to handle personal data responsibly.

Learning Resources

Want to go further? These are free and trusted.



Julius AI: analyse data by chatting with it

https://julius.ai/



Looker Studio: free dashboards from Google

https://lookerstudio.google.com/



GDPR full text, Regulation (EU) 2016/679

https://eur-lex.europa.eu/eli/reg/2016/679/oj

L4.2 Key Takeaways

Before the next lesson, hold on to these five points.

- AI tools let you analyse data by asking questions in plain English, with no coding
- Good analysis comes from specific questions about totals, trends and comparisons
- Match the chart to the question, and always sanity-check surprising results
- Turn numbers into a story: lead with the finding and say why it matters
- Handle personal data lawfully: anonymise, respect the GDPR, protect secrets

Now Put It Into Practice

Head to the Re-AI learning platform to finish this lesson.



INTERACTIVE ACTIVITY

Insight or vague observation?

On the platform · about 10 minutes



HANDS-ON EXERCISE EX 4.2

Analyse a dataset and write up your findings

1.5 hours · Tools: Julius AI (free tier), Retail sales CSV (provided by your tutor), Google Docs or Word



LESSON QUIZ

5 multiple-choice questions

70% to pass · unlimited retakes