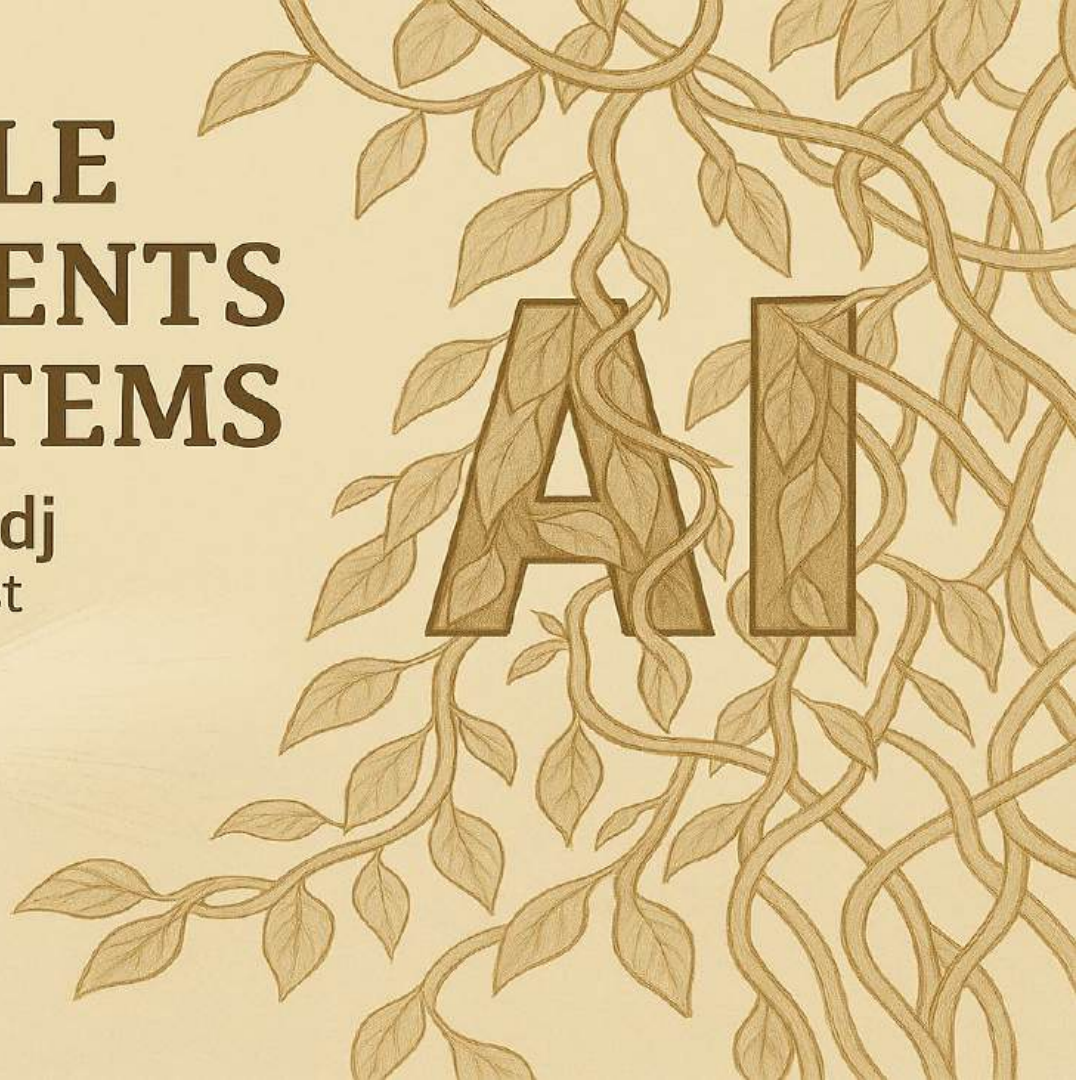


THE JUNGLE OF EXPERIMENTS FOR AI SYSTEMS

Jelena Nadj
Data Scientist



AI



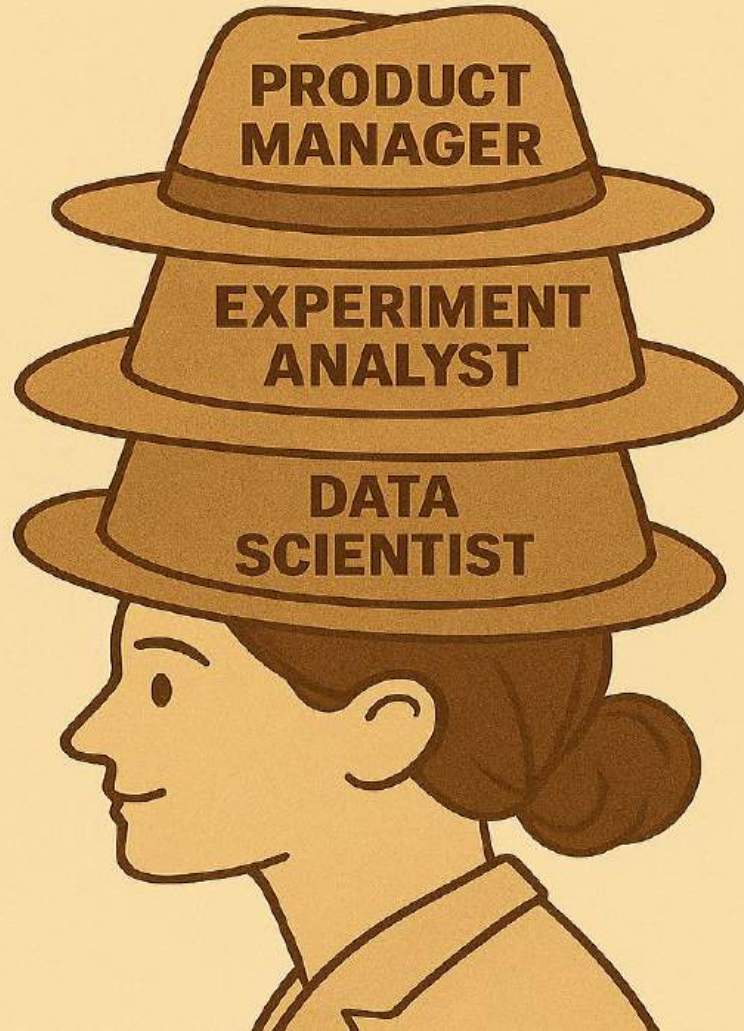


! Important

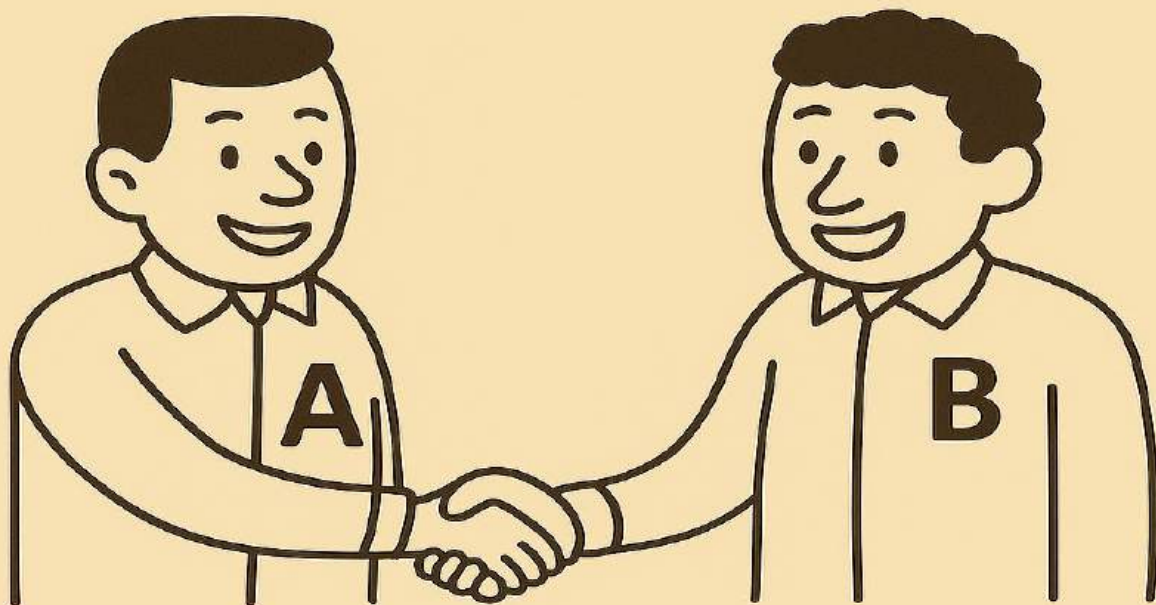
**We're losing access to our
ranking model in 3 months.**

**This powers 90 % of our
revenue.**

**We need to build and
test a new one.**



**WE THOUGHT IT WAS
JUST A REGULAR A/B TEST...**



BUT OUR VARIANTS HAD DIFFERENT PLANS



CLASSIC A/B TEST (STATIC)

CONTROL

A

VARIANT

B

AI EXPERIMENT (DYNAMIC)

CONTROL

A1

A1

A1

A2

A2

A2

VARIANT

B1

B2

B3

B4

B5

B6

**IF YOUR
PRODUCT USES
AI
YOUR TESTS WILL
TOO — EVEN IF
YOU DON'T PLAN IT**



WHAT WAS THE TEST?

🔍 Search...

Location ▾

Dates ▾

Sort by ▾



Riverside Campsite

\$50 / night



Forest Cabin

\$120 / night



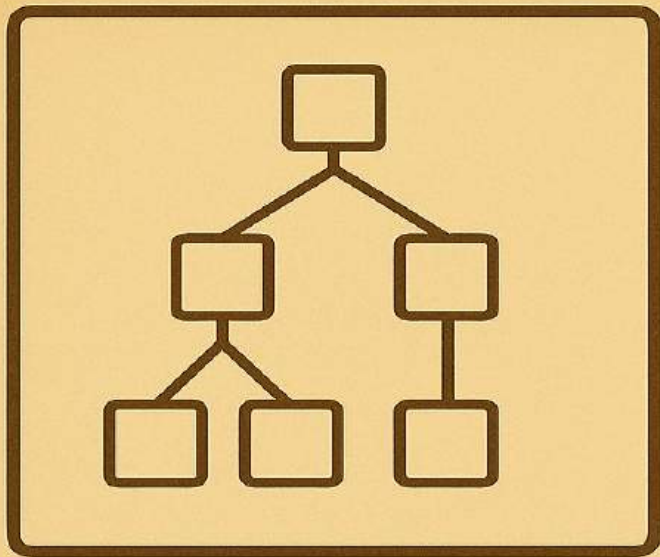
Mountain A-Frame

\$95 / night



Meadow Camper

\$85 / night

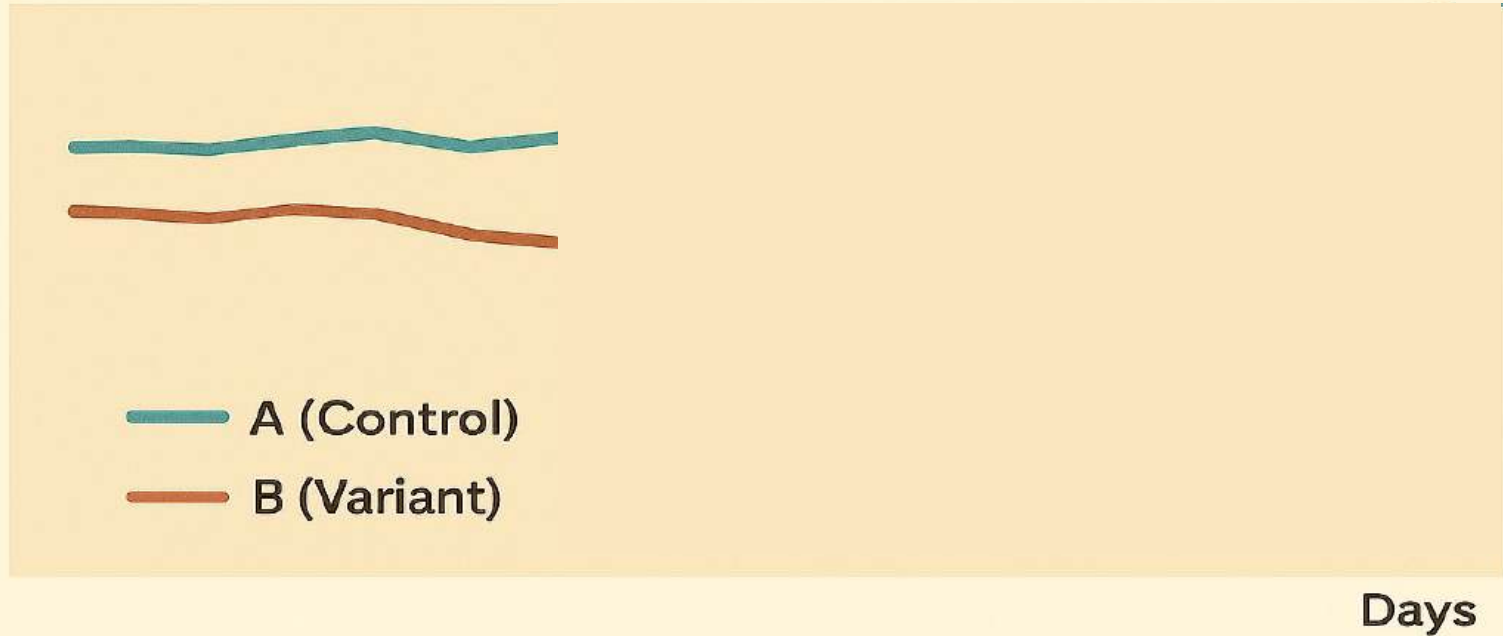


OLD MODEL

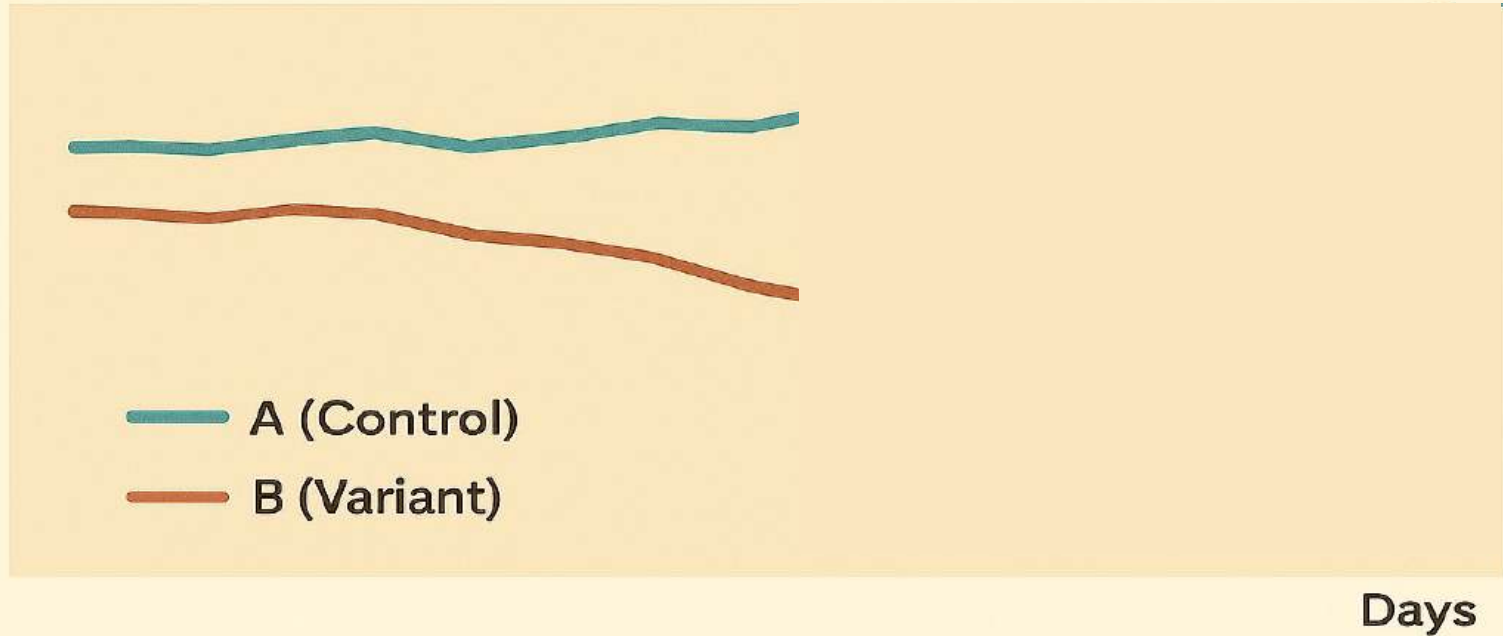


NEW MODEL

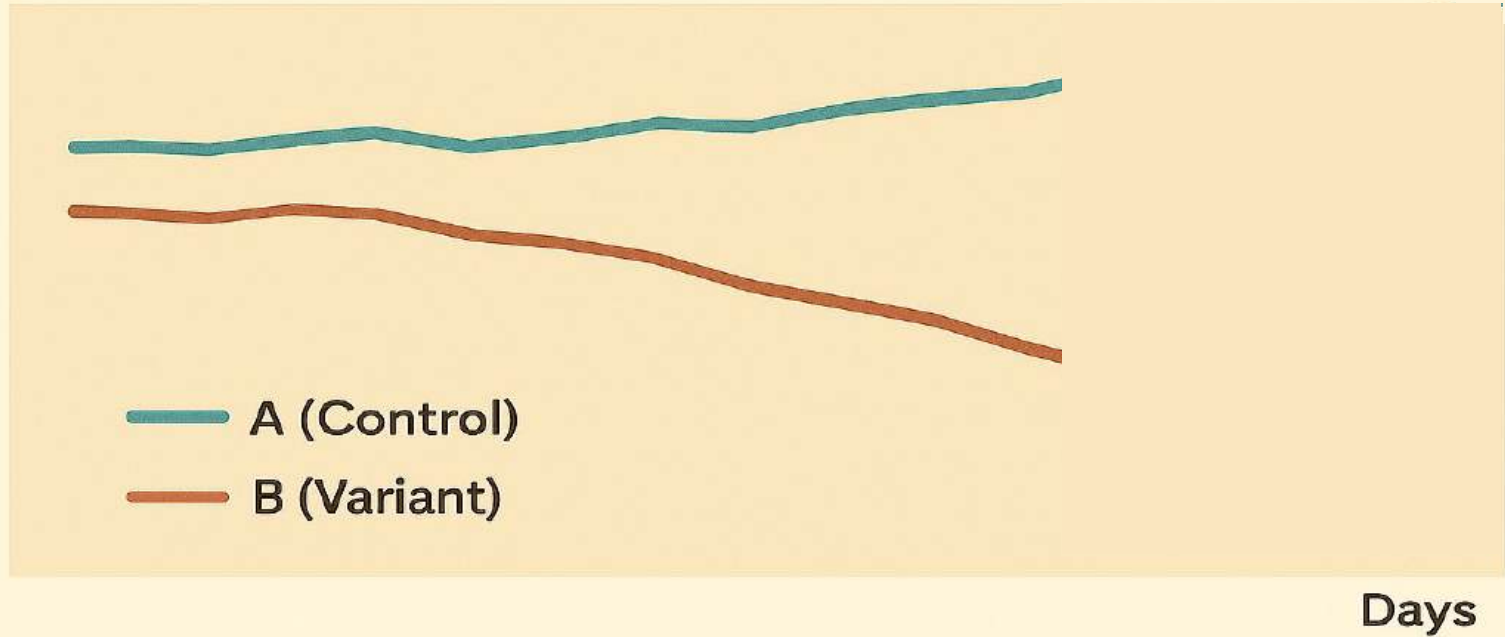
EVERYTHING LOOKED FINE...



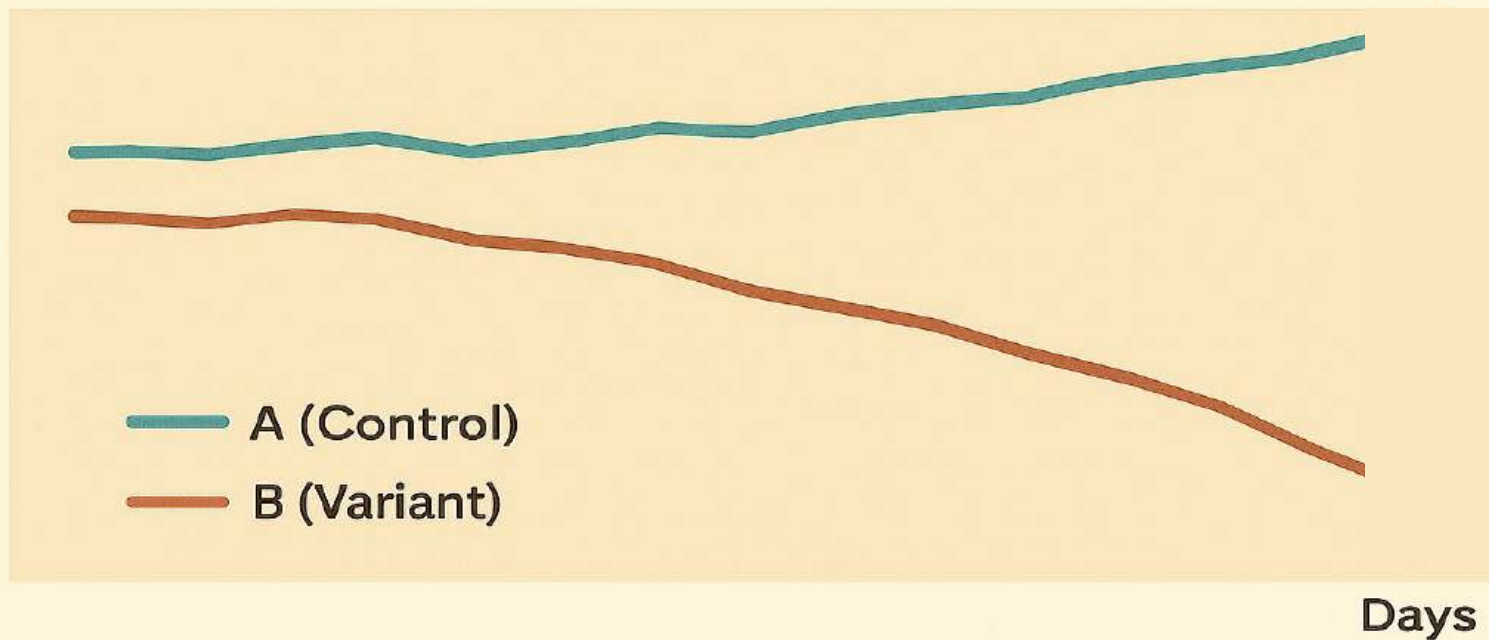
EVERYTHING LOOKED FINE...



UNTIL IT DIDN'T...



UNTIL IT DIDN'T...



WHAT IS GOING ON?



FROM COMPETITION TO LEARNING



UNEVEN ACCESS TO UPDATES



CONTROL



VARIANT

THE FEEDBACK LOOP PROBLEM

🔍 Search...

Location

Dates

Sort by ▼



Riverside Campsite
2 bookings



Forest Cabin
1 booking



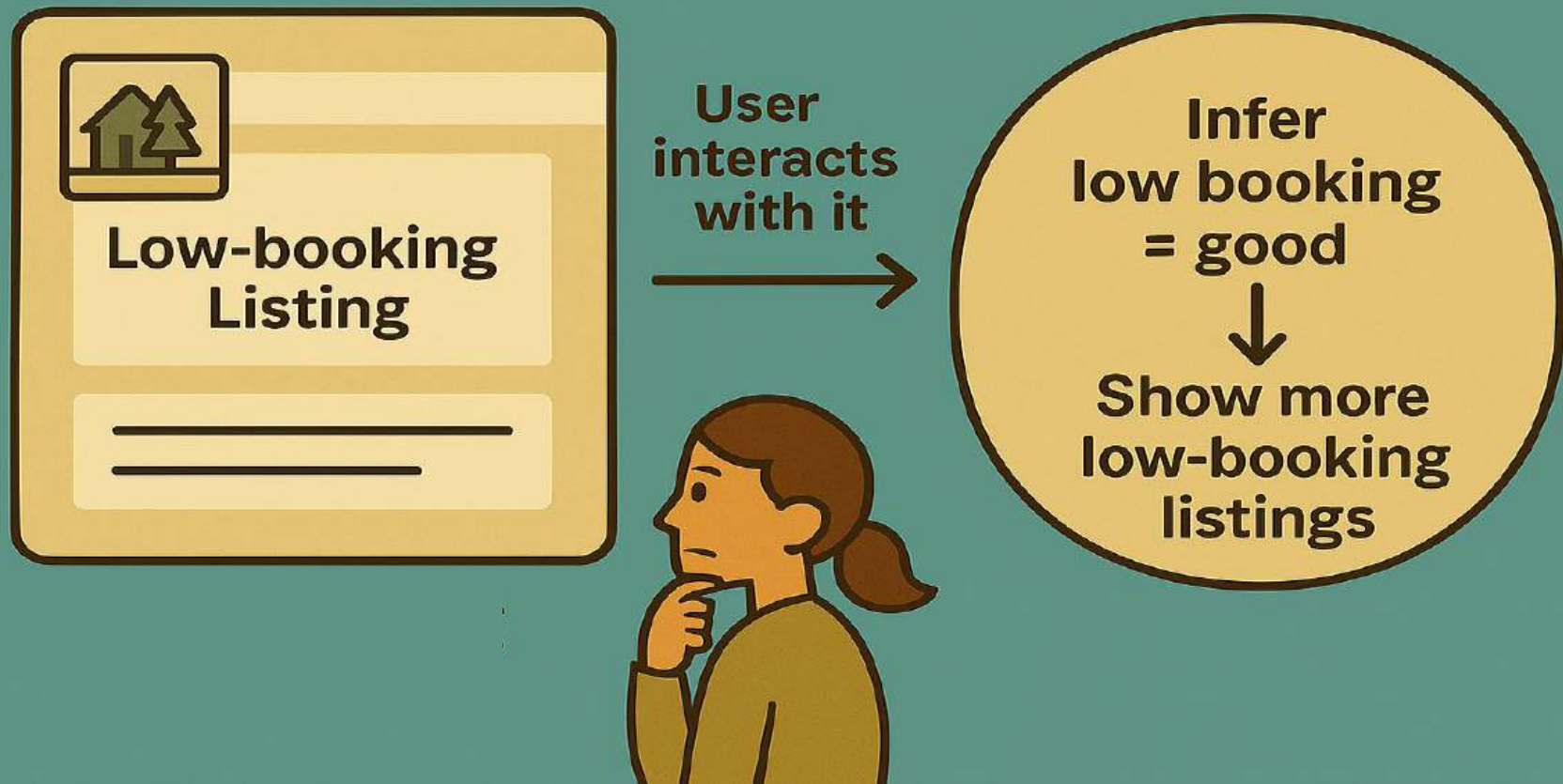
Mountain A-Frame
1 booking



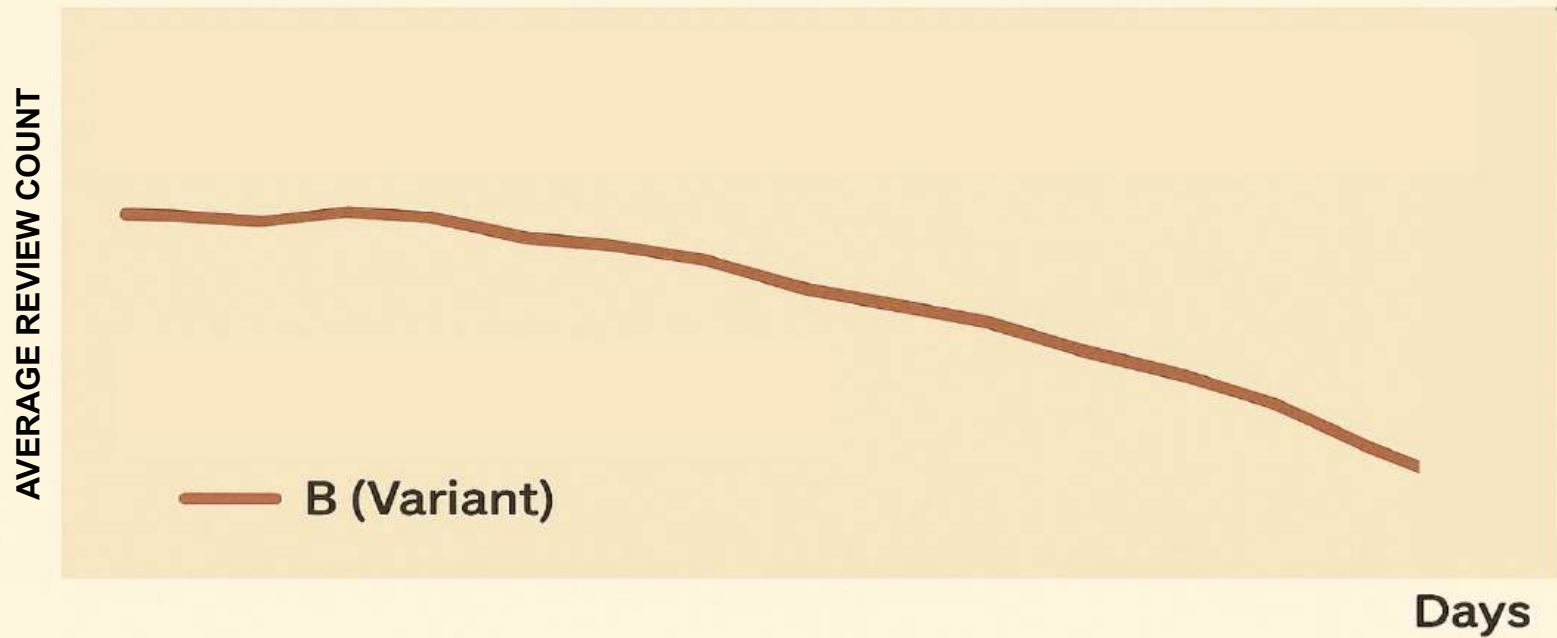
Meadow Camper
3 bookings



THE FEEDBACK LOOP PROBLEM



... LOOKS FAMILIAR?



LESSONS LEARNED

- Freeze variability where possible

LESSONS LEARNED

- Freeze variability where possible
- Be careful of feedback loops

LESSONS LEARNED

- Freeze variability where possible
- Be careful of feedback loops
- Track how learning evolves

IT WAS HUMBLING

We thought we'd fixed it – several times.

Each fix revealed new layers.

Testing learning systems
requires humility.



THE FUTURE: LEARN FASTER THAN THE LEARNERS



THANK YOU

