

Why statistics are wrong.

<http://bit.ly/data-natives>



Martin Ocker

jr. Data Scientist

XING

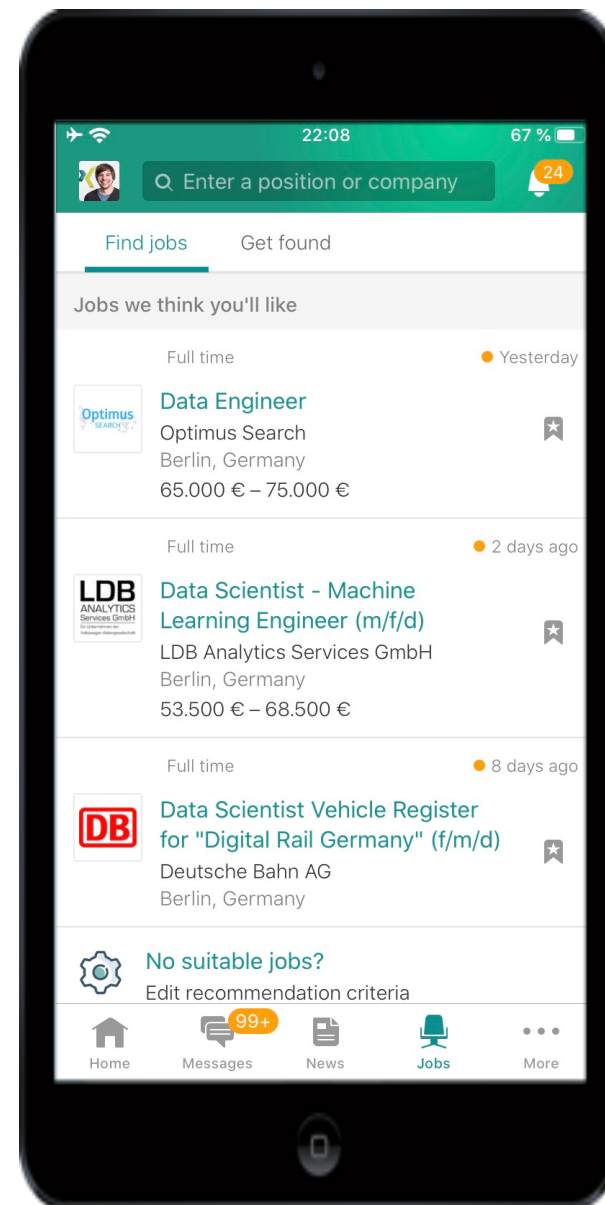
- Recommender Systems
- Big Data



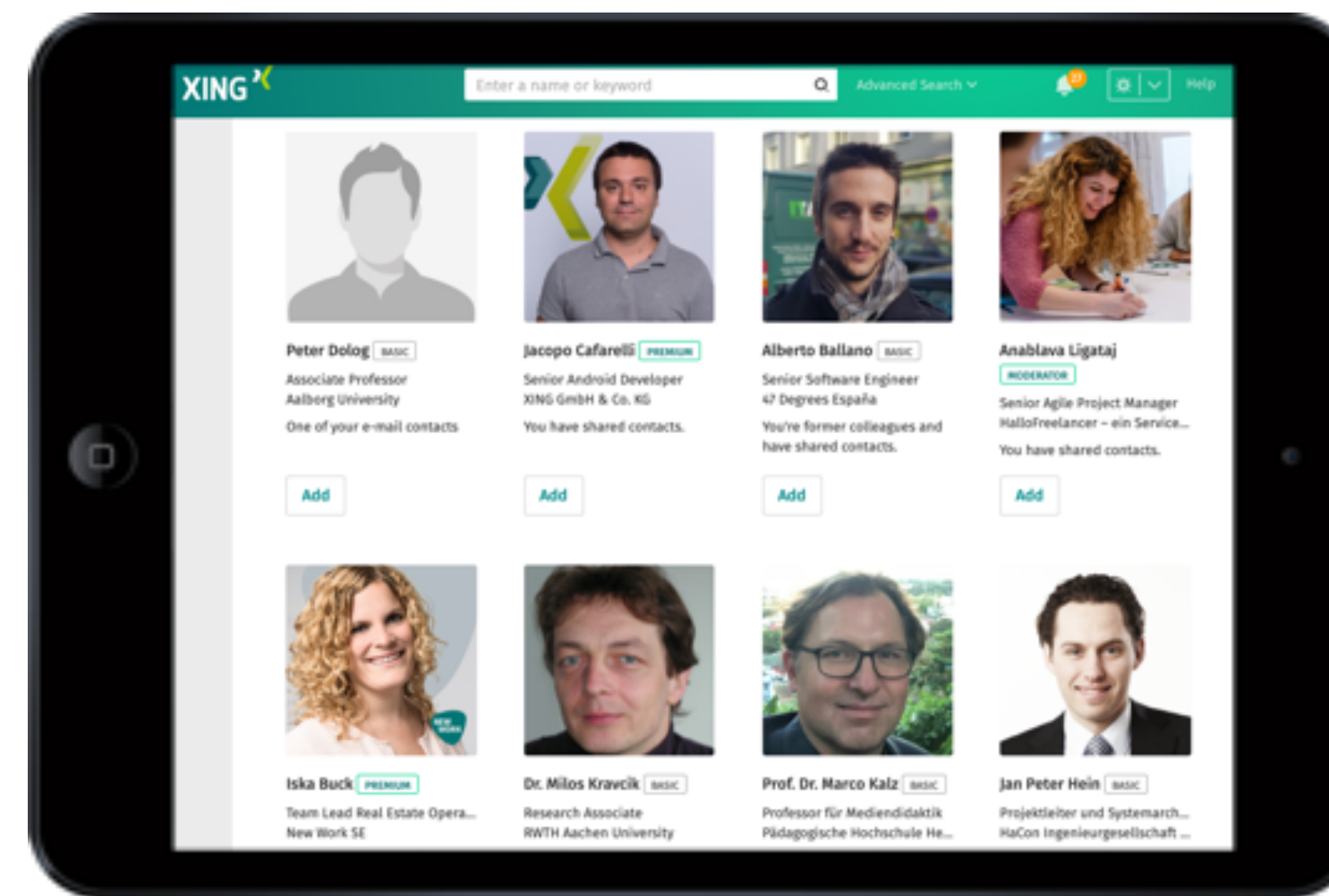
Recommender Systems at Xing

And some more recommenders for...

- Events
- Groups
- Companies / Employers
- News
- Freelancers
- Referrals
- Candidates
- Startpage stories
- ...



Job Recommendations



Contact Recommendations

Type I Error

“A type I error occurs when the null Hypothesis is true, but is rejected.”

In plain words

You think there is something but there isn't.

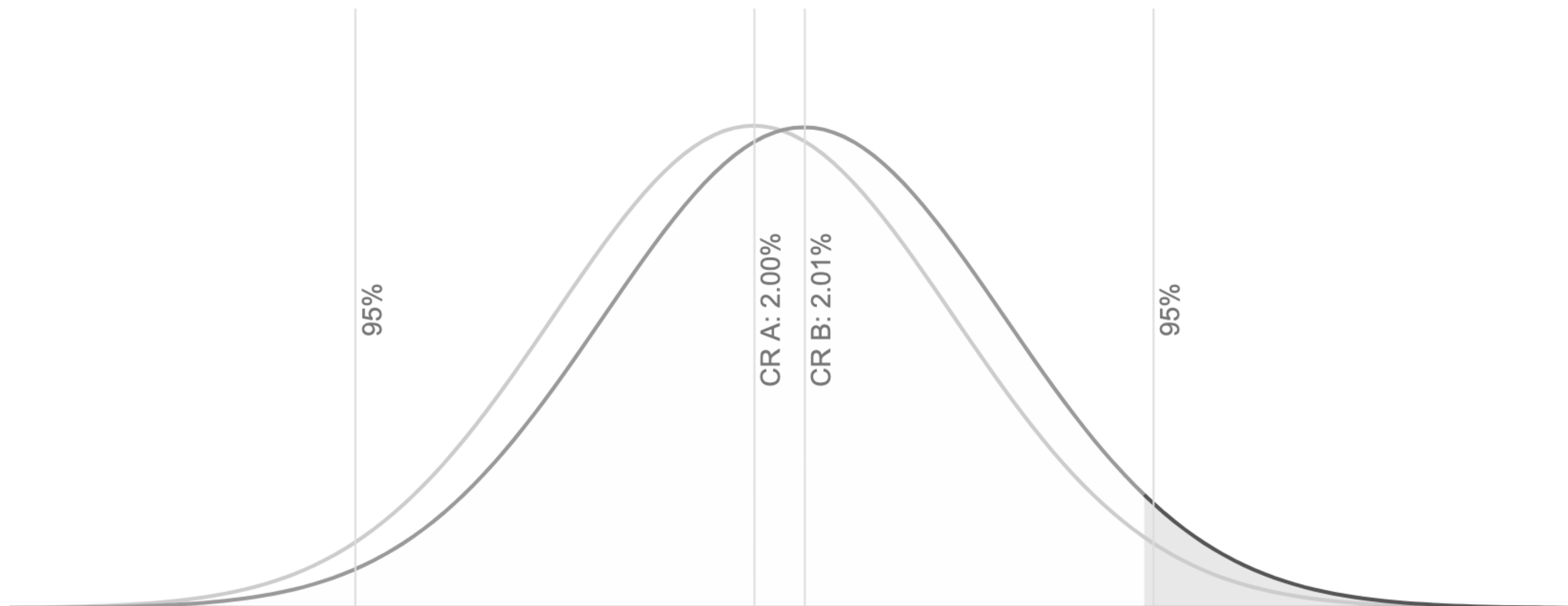


Example Type I Error - great feature idea!



Changes are rolled out.

Results are not statistically significant.



Type II Error

“A type II error occurs when the null hypothesis is false, but erroneously fails to be rejected.”

In plain words

There is something but you think there isn't.



Example Type II Error - Adding explanation



Daniel Dembach

MODERATOR

Head of Engineering
Wunder Mobility

You're former colleagues and have shared contacts.

Add



Catherine Plehn

MODERATOR

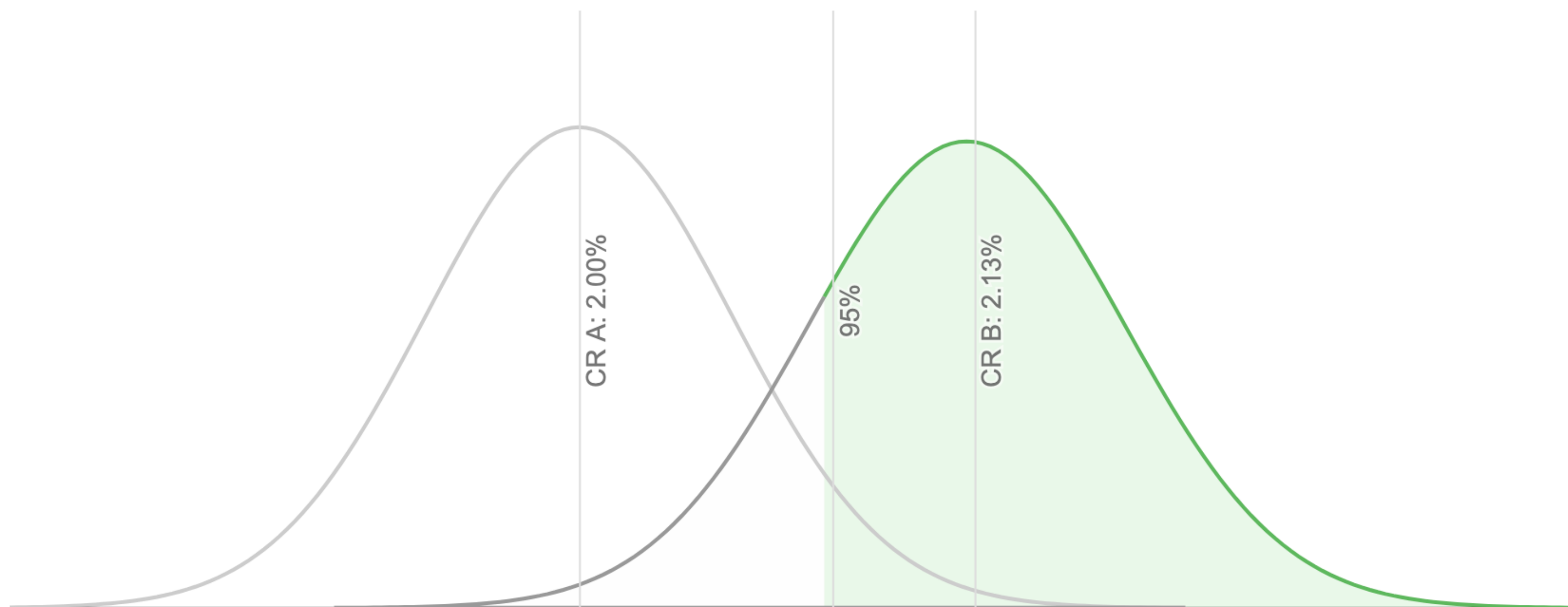
Communication Designer
XING SE

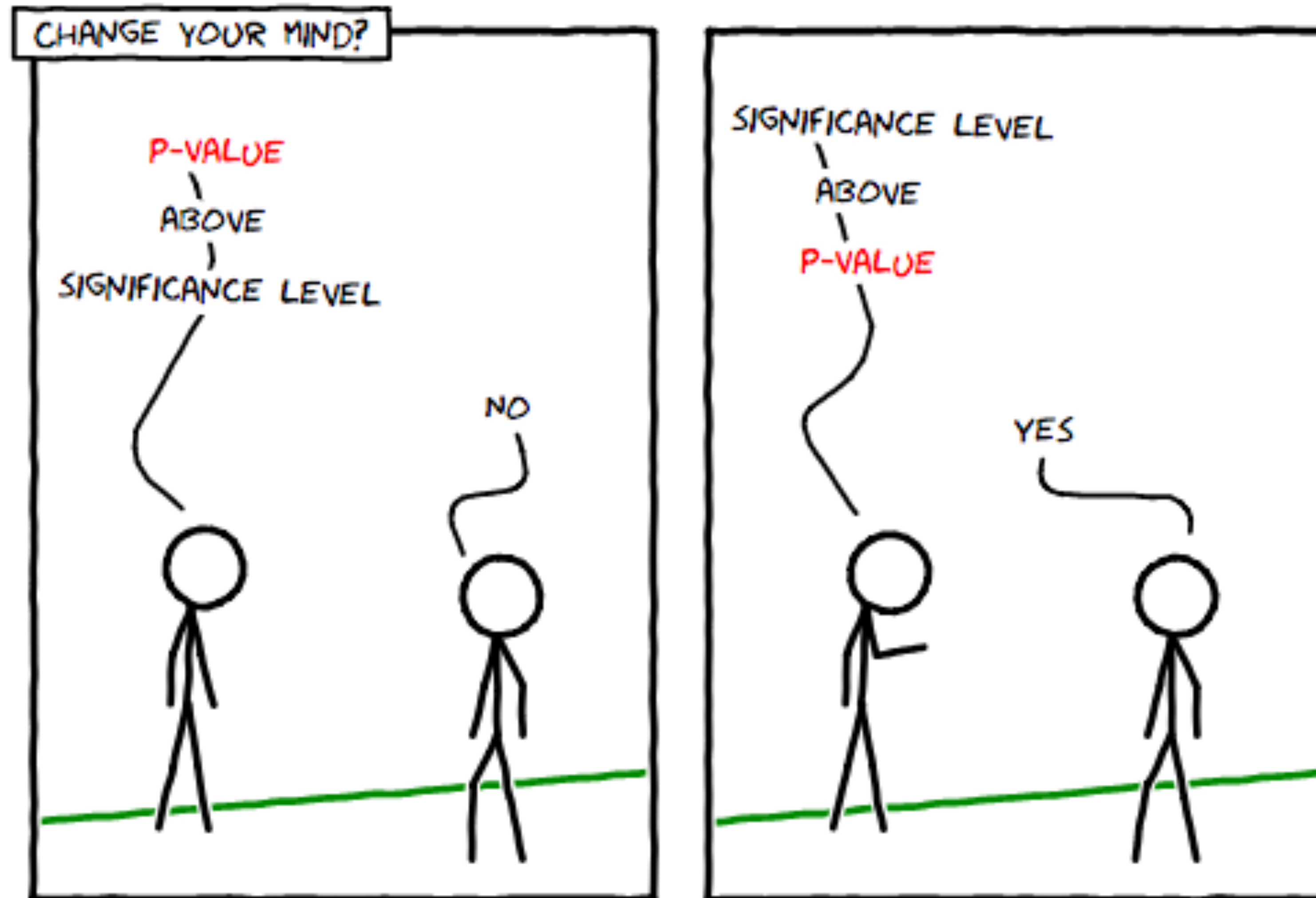
You're colleagues and have shared contacts.

Add

Changes are not rolled out

Results are statistically significant.





Type III Error

“A type III error occurs when the null hypothesis is false, but rejected for the wrong reason.”

In plain words

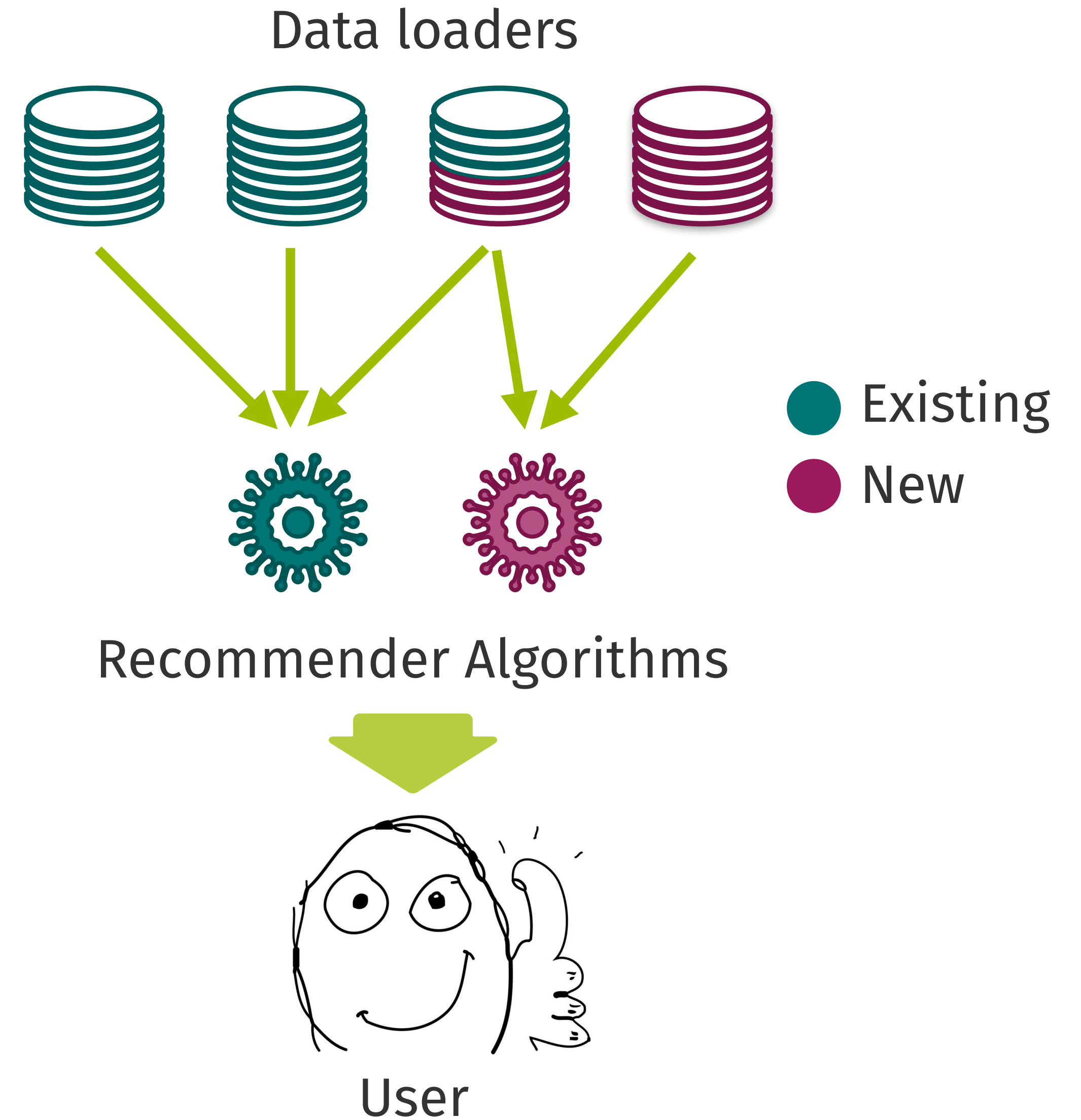
There is something but you think it is something else.



Example Type III Error

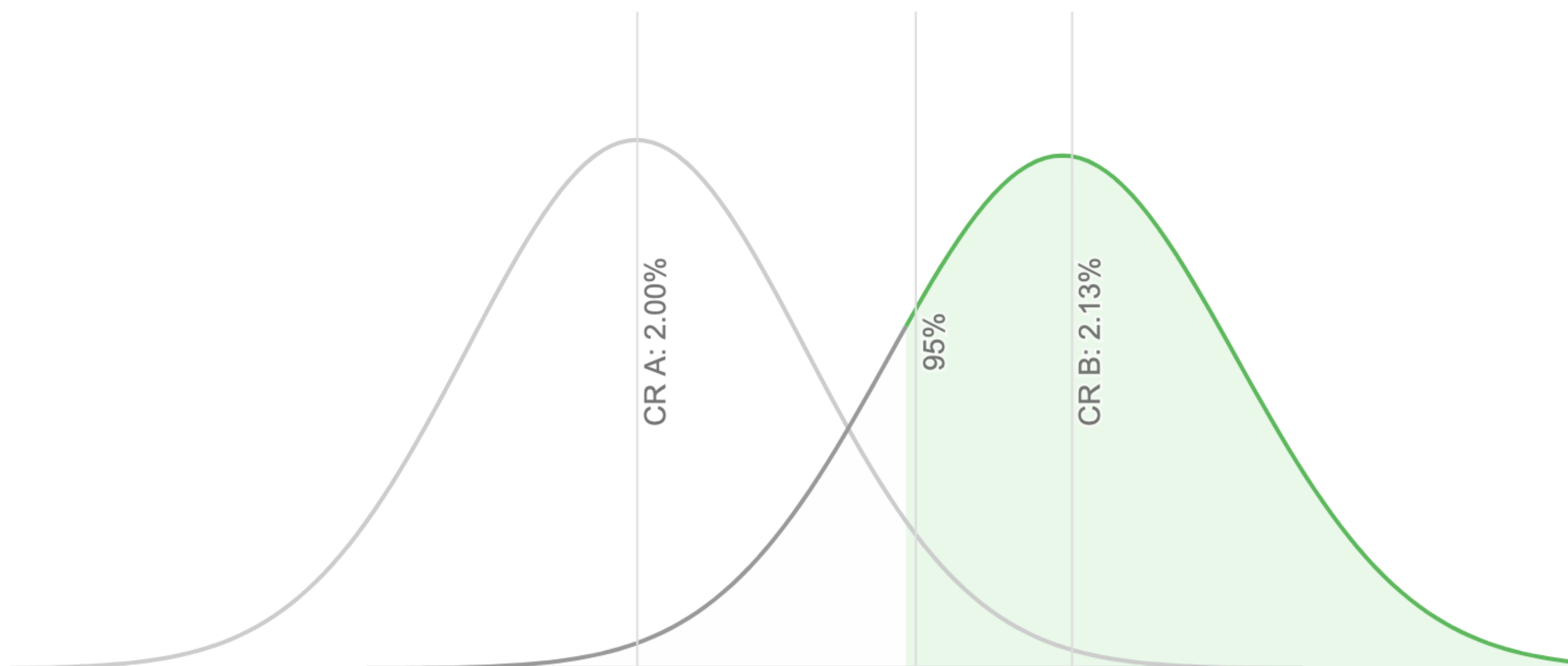
Implement new feature

- Uses old and new data
- affects existing data loaders in the app



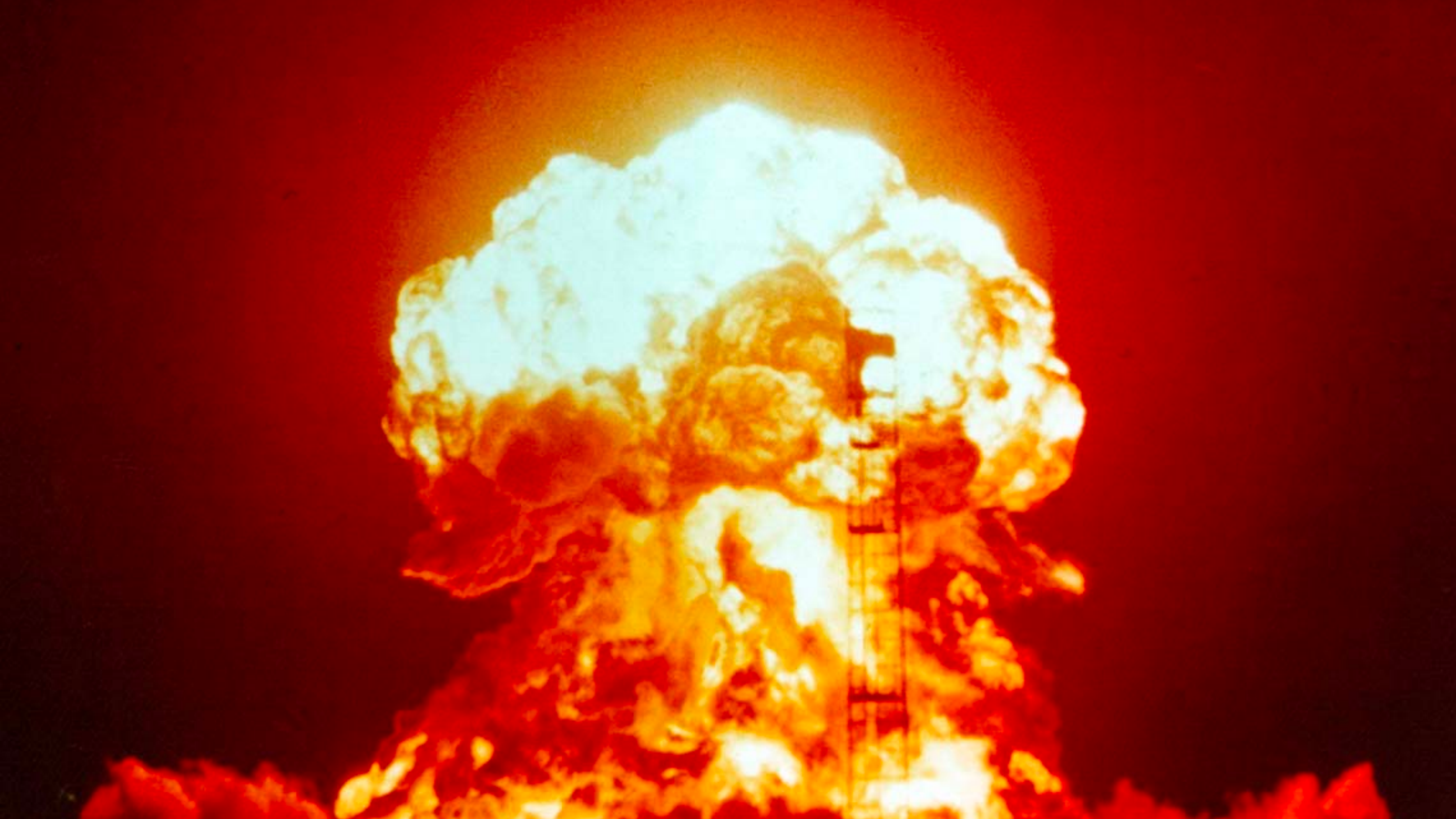
Changes are rolled out

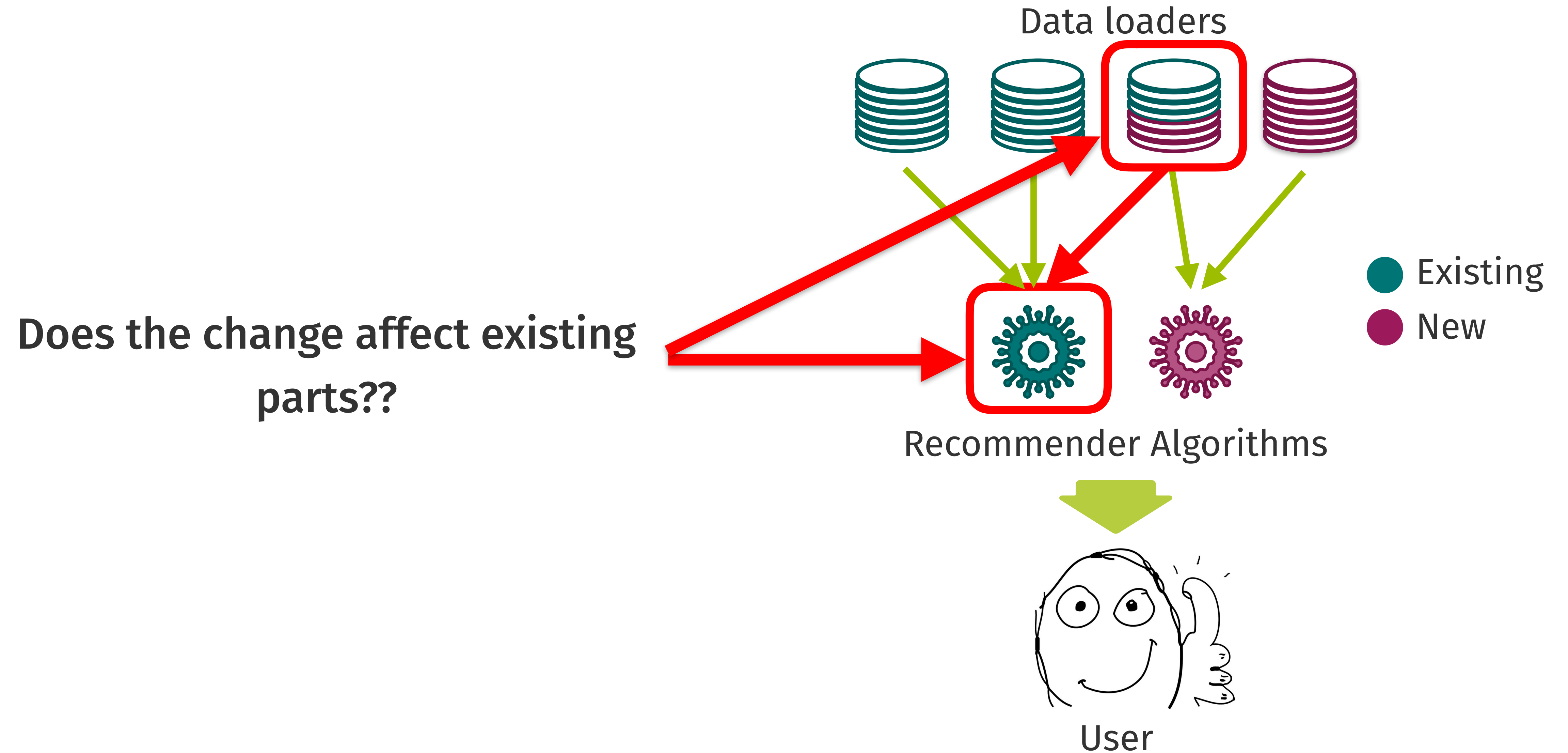
Results are statistically significant.

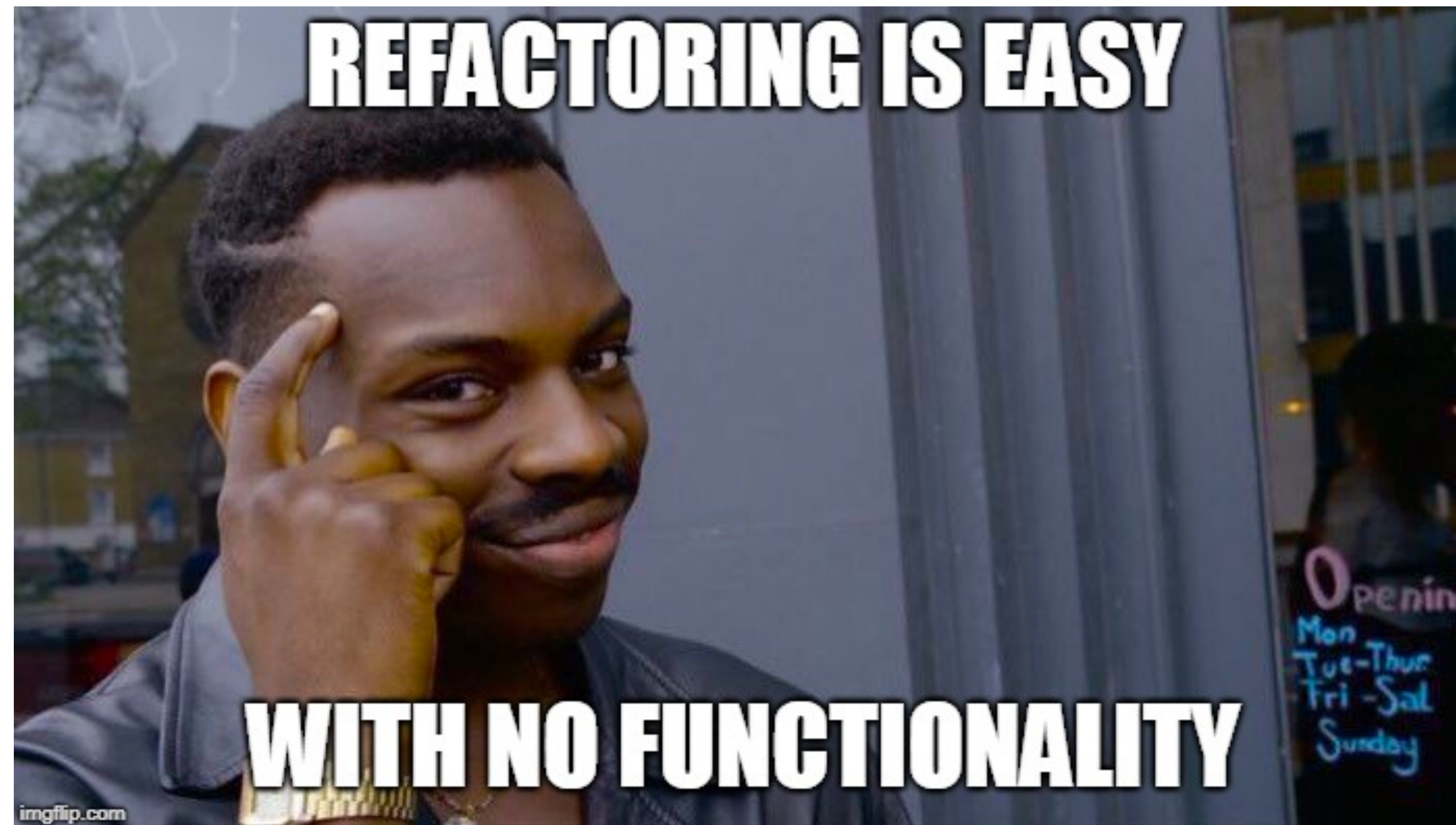


HEY GIRL,

**YOU MUST BE $P > 0.05$
BECAUSE I FAIL TO REJECT YOU**







Conclusion

Try to be aware of statistical errors.