

Product Data Science and the Limits of AI

Daeus Jorento, Product Data Scientist at Ramp

What would make you give up your smartphone forever?



What would make you give up your smartphone forever?

- I'm dead
- Better alternative
- Everyone else stops
- Illegal or dangerous
- Cost $\times 1,000$
- Physical harm



What would make you give up your smartphone forever?

- I'm dead
- Better alternative
- Everyone else stops
- Illegal or dangerous
- Cost $\times 1,000$
- Physical harm



Evidence does not help if the decision will not change.

What would make you scrap months of product work?



What would make you scrap months of product work?

- Illegal
- Harmful
- No adoption
- No retention
- Cost > value
- Better opportunity



What would make you scrap months of product work?

- Illegal
- Harmful
- No adoption
- No retention
- Cost > value
- Better opportunity



Every launch is an experiment.

Choose a Sign-Up Flow

You can ship one:

A One-page form

B Step-by-step tutorial

Which would you choose?

Choose a Sign-Up Flow

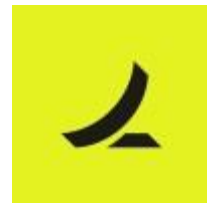
A/B Test Results:

A 10% higher conversion

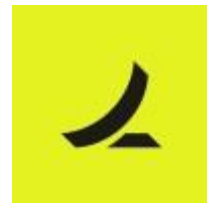
B 15% higher average LTV among paying customers

Which would you choose?

My background



My background



ChatGPT

*The essential difficulty in creating strategy is not logical;
it is choice itself.*

- Richard P. Rumelt (Good Strategy/Bad Strategy)

Product Data Science

Reduce ambiguity. Improve decisions.

1.  Data Engineering: Trustworthy data
2.  Causal Inference: Experimentation
3.  Machine Learning: Prediction at scale
4.  Influence: Ideas that land



Choose a Sign-Up Flow

A/B Test Results:

A 10% higher conversion

B 15% higher average LTV among paying customers

Which would you choose?

Choose a Sign-Up Flow

A/B Test Results:

A 10% higher conversion

B 15% higher average LTV among paying customers

Which would you choose?

What does AI change?

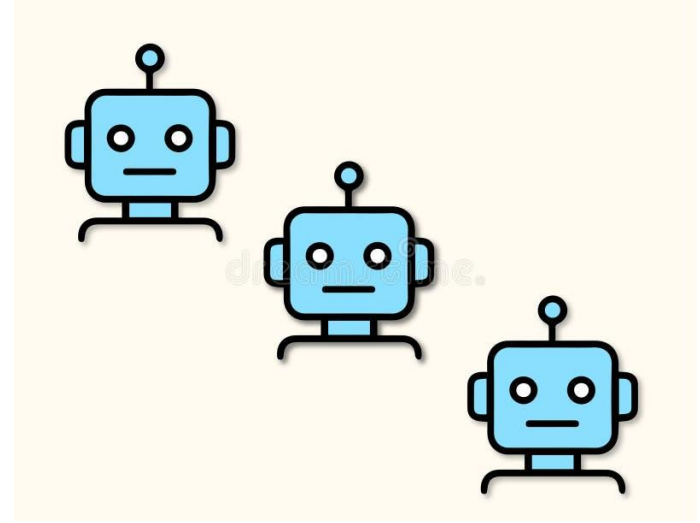
Execution is abundant. ⚡

A team of robots. 🤖

Faster bias confirmation. 🧠

Individual bottleneck: framing and judgment. 🧠

Organizational bottleneck: consensus. 🤝



AI-Powered Accounting at Ramp

Ramp's AI auto-codes spend, surfaces what needs review, and syncs to your ERP in real time.



🧩 My work: When is AI trustworthy enough to act?

The Automation Serenity Prayer

- ⚙️ What can we automate?
- 👉 What should humans control?
- ⚖️ How do we know the difference?



Automation is a Risk Decision

Humans and agents make mistakes. 🙄

\$10 ≠ \$10,000. 💵

Agent systems resemble organizations. 🏢

Ramp Router: Right task, right model. 🔄

Onboarding a person is like giving an agent context. 📖



Expense Categorization Example



The business expense was \$20.

Prediction:



Expense Categorization Example



The business expense was \$20.

Prediction: Office supplies?



Expense Categorization Example



The business expense was \$20.



Prediction: Office supplies?



The merchant was Panda Express.



Updated prediction:

Expense Categorization Example



The business expense was \$20.



Prediction: Office supplies?



The merchant was Panda Express.



Updated prediction: Meal

Expense Categorization Example



The business expense was \$20.



Prediction: Office supplies?



The merchant was Panda Express.



Updated prediction: Meal



The purchase happened at an airport.

Updated prediction:



Expense Categorization Example



The business expense was \$20.



Prediction: Office supplies?



The merchant was Panda Express.



Updated prediction: Meal



The purchase happened at an airport.

Updated prediction: Travel meal



Product Data Science

Reduce ambiguity. Improve decisions.

1. 🏗️ Data Engineering: Trustworthy data
2. 🧪 Causal Inference: Experimentation
3. 🤖 Machine Learning: Prediction at scale
4. 🧠 Influence: Ideas that land

AI changes how we work.

It doesn't change the fundamentals.





Data Engineering: Trustworthy data



If a premise is wrong, the logic does not matter.



Code can be rewritten. Missing data cannot.



Every summary loses information.



Choose what to preserve.

A short story about decisions 😊





Causal Inference: Experimentation

HiPPO (Highest-Paid Person's Opinion) 🦛



Experiments:

-  Create an independent referee.
-  Ground decisions in real customer behavior.
-  Force us to think like scientists.



Machine Learning: Prediction at scale



Offline evaluation is a practice test.



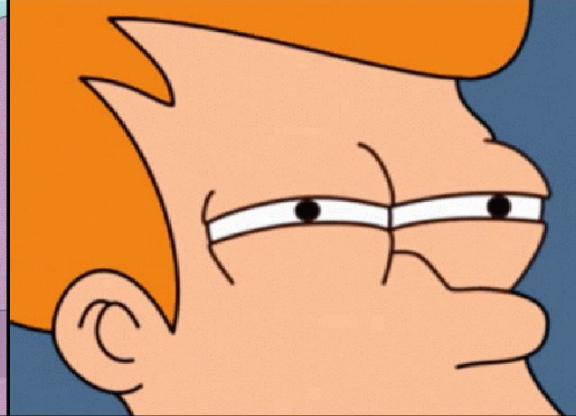
Launch is the real exam.

ML model returns above 99% accuracy on real-world data

Junior Data Scientist



Senior Data Scientist



Influence: Ideas that land

If an idea does not land, its potential does not matter.

If I don't believe it, why should anyone else?

Who can act?

Where is the decision made?

Nobody is an empty cup.



Data Science Recap

Without data, the car has no dashboard. 🚗

Without science, decisions default to gut and randomness. 🎲

If you don't have IT, you are IT. 💻



Limits of AI

Someone has to define success. 

Context has to arrive in time to act. 

We must decide which risks are acceptable. 

The organization must commit to a choice. 

Those are product decisions.

Thank you!

Ramp: Time is money. Save both.

daeus.blog