

# WHAT DO WE RECOMMEND?

## PRODUCT RECOMMENDATION SYSTEM: A FINTECH ANALYSIS

### HIGHLIGHTS

- 2 billion events and transactions processed
- 7 recommendation algorithms tested
- Deployed on a AWS serverless architecture

### AUTHORS

- Yanina Dip
- Federico Ukmar
- Rafael Zambrano
- Franco Panario

### INTRODUCTION

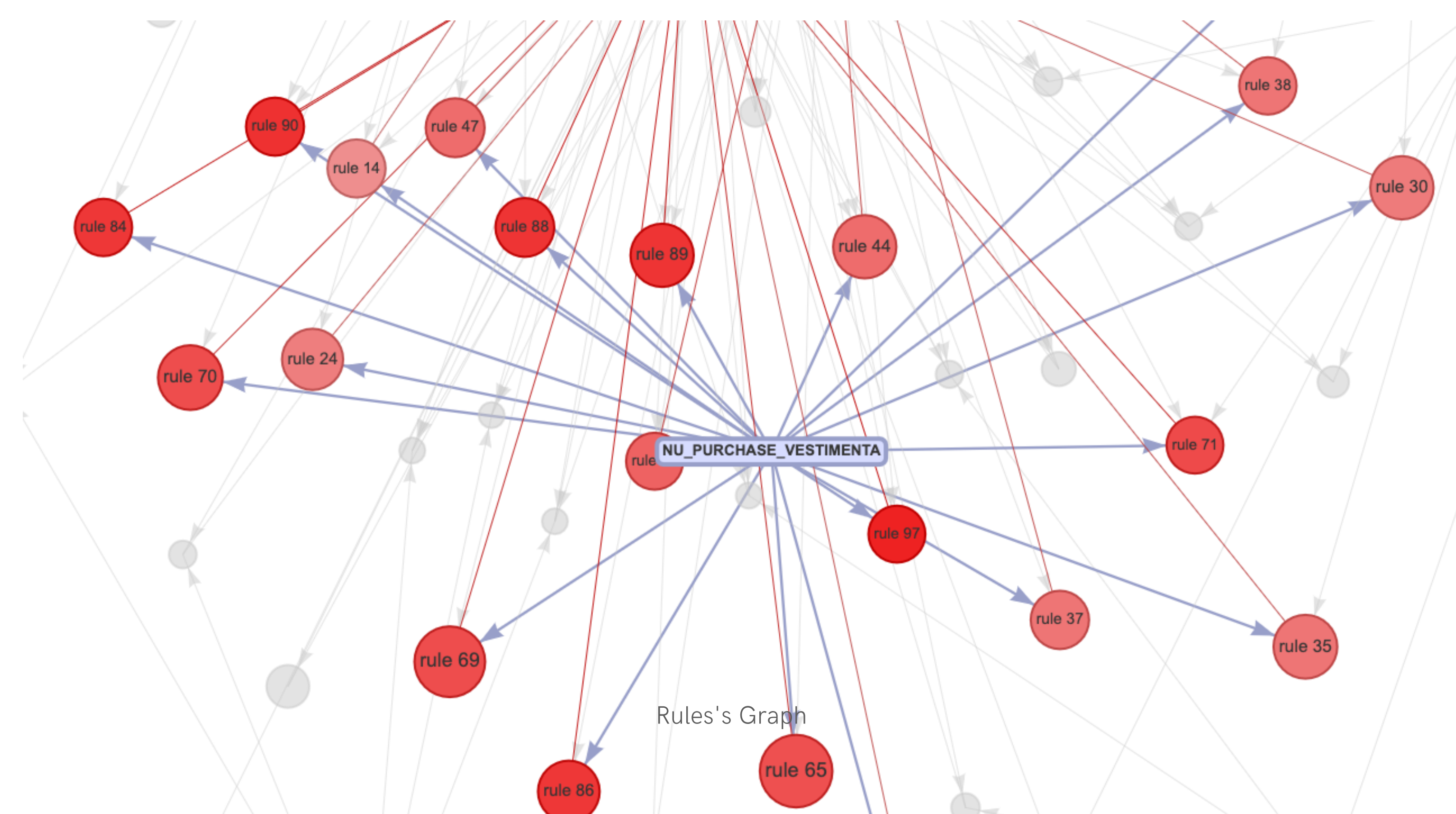
Various products have been incorporated into the app, designed to provide a better experience for customers and, at the same time, achieve greater profitability for the business.

We want to increase the use of all the products offered, and to achieve a more personalized service for each client according to their needs, characteristics and potential consumption.



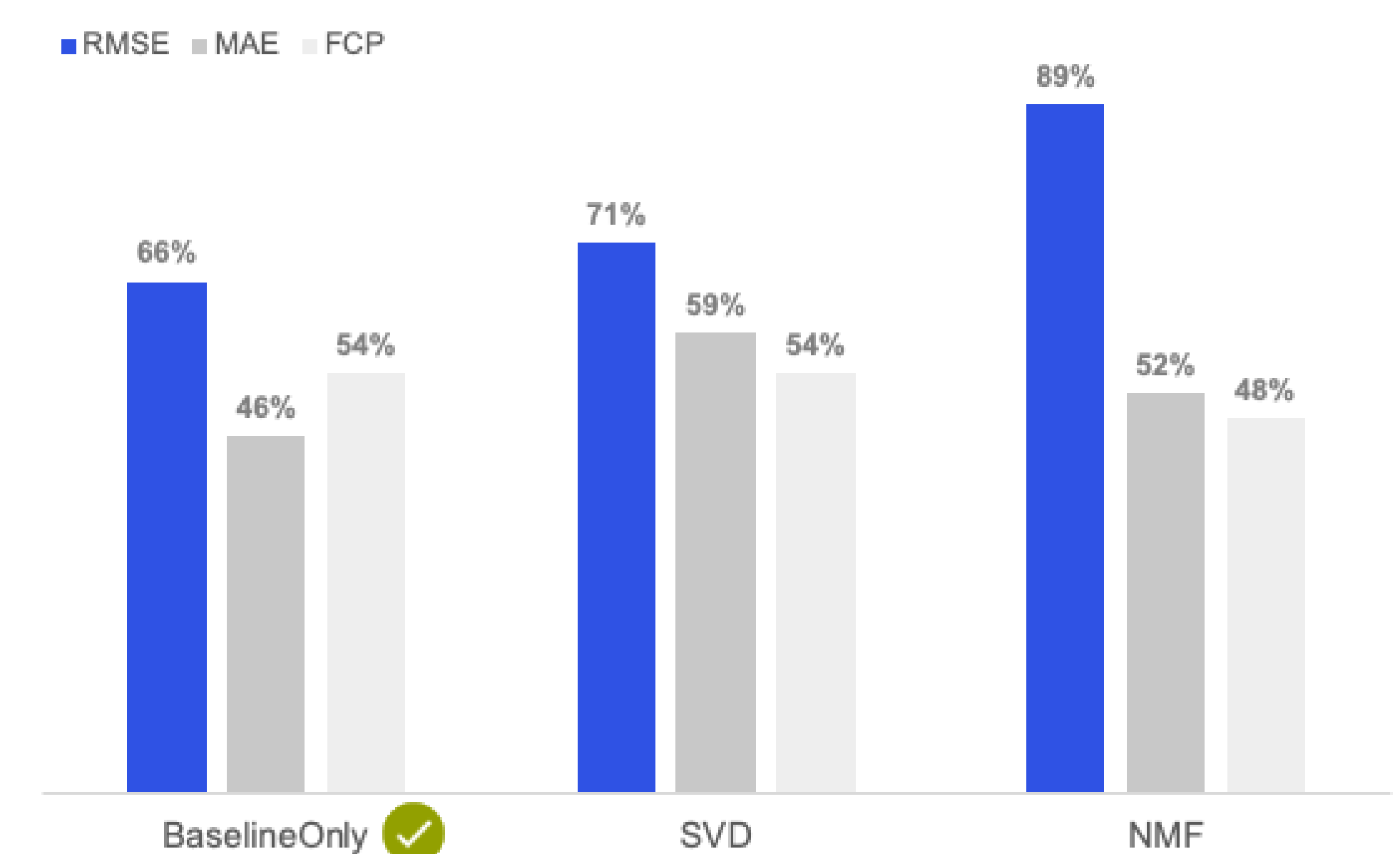
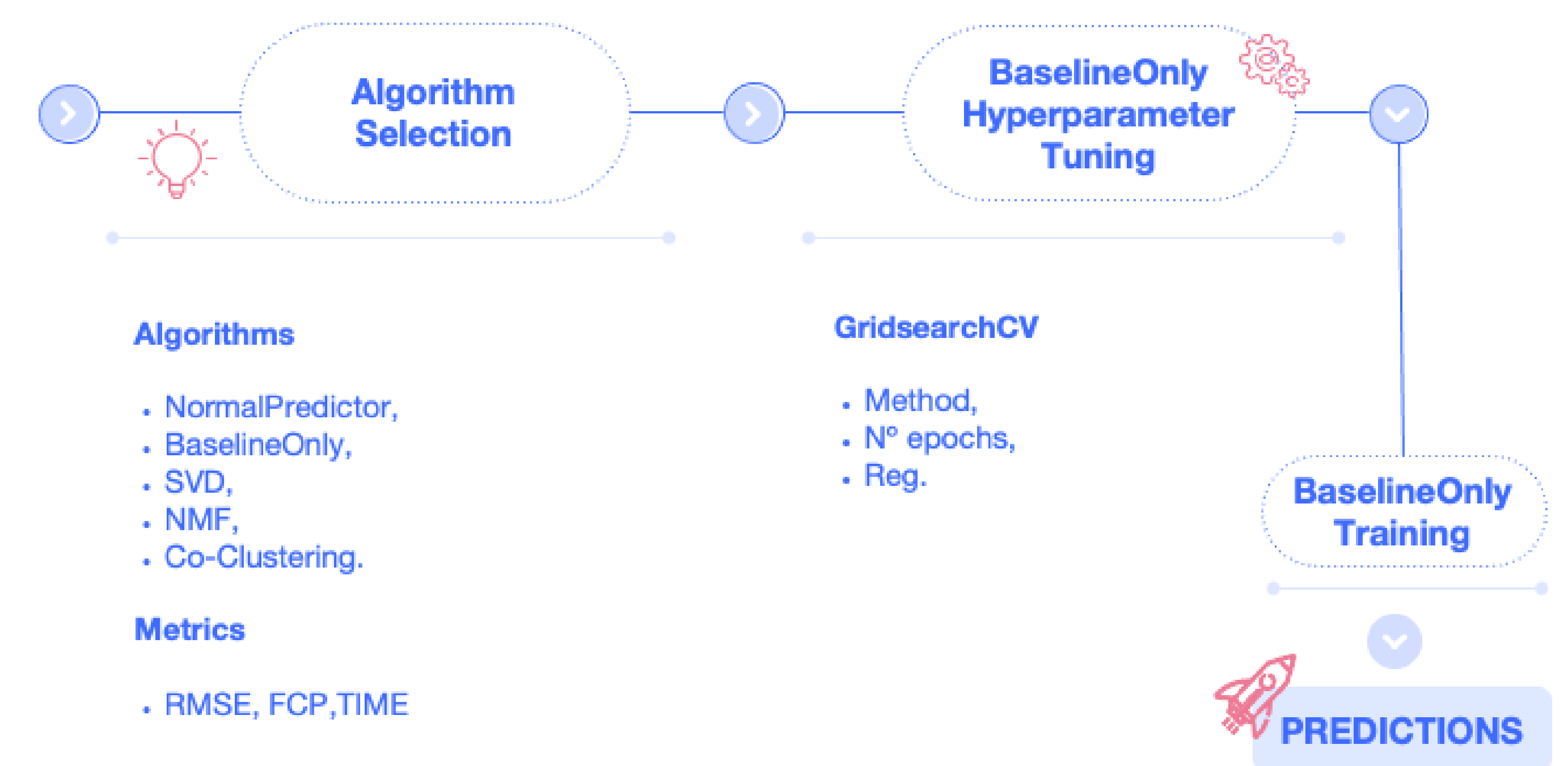
### ASSOCIATION RULES

In order to analyze the consumption of the different products, an algorithm of association rules is applied, this allows to see the cross selling of the products. It also allows you to analyze which products drive the use of others.



### MODELING

Through all the models tested, "BaseLineOnly" algorithm achieved better values in the RMSE and FCP metrics, and after that, its hyperparameters were tuning using gridsearchCV.



### DATA

Historical information from 3 different sources was processed to analyze approximately 2 million users from 3 main aspects:

- Their demographics and characteristics
- Their transactionality
- Their behavior in the application and what functionalities they use

**~2 Billion**

Rows of data processed

### INFRASTRUCTURE AWS



Stored on S3



Processed on Glue



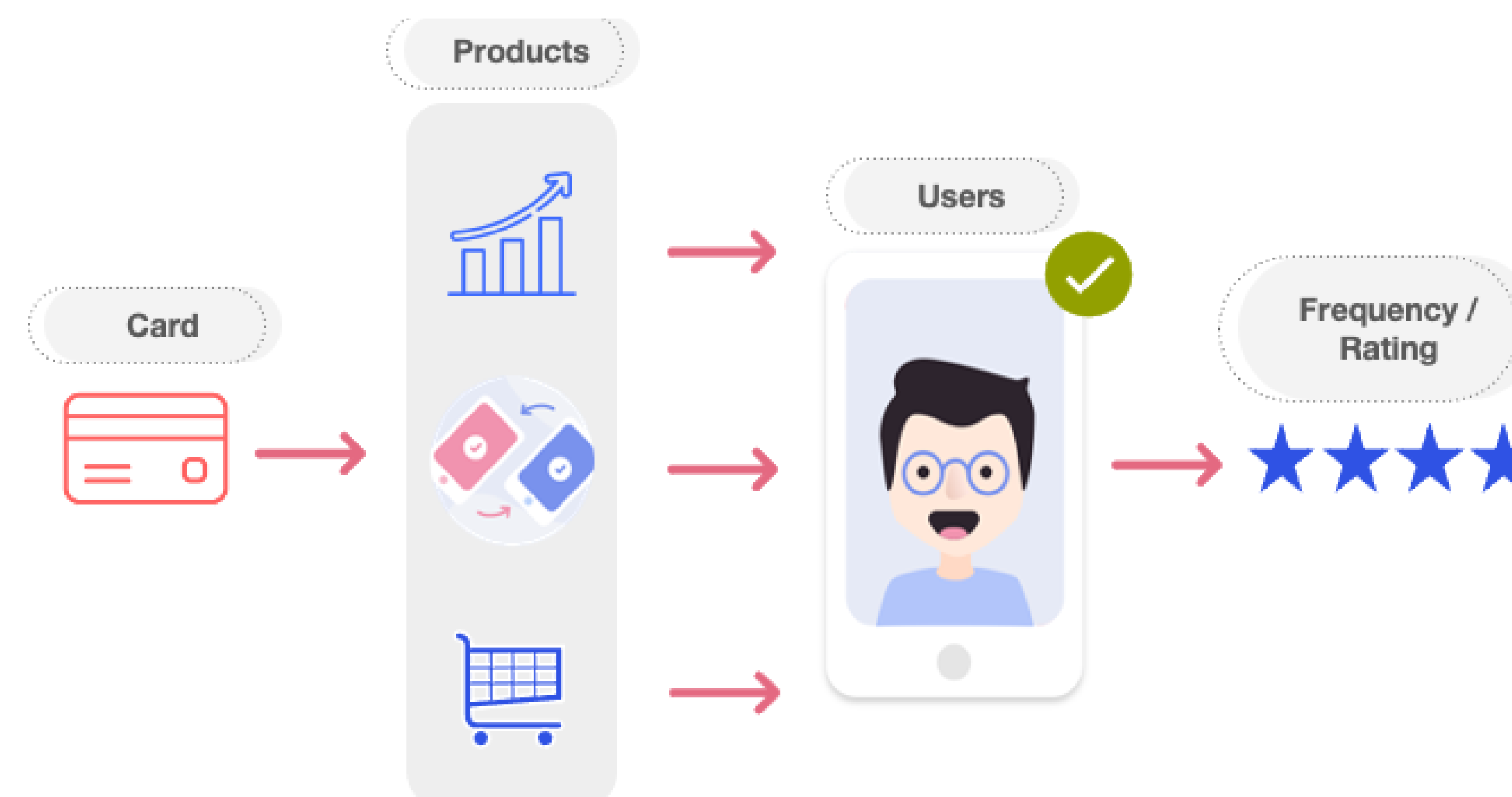
Trained on Sagemaker



Triggered and saved through Lambdas

### PRODUCT RATING

To train a recommendation model, Therefore, an approximate valuation or score of the products by the user, which has constructed, through the no place in the type of products or frequency of use of these services that the company offers. products.



### CONCLUSION

To measure the impact in numbers we compared the scenario in which the client responds to the recommendation of the product best scored by the model was analyzed versus a scenario without any product recommendation.

With the implementation of this recommendation model, it is estimated that the expected profitability of the client portfolio will increase by at least 1.28% units in the next 3 months.

