Google Cloud

# Summary

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**Introduction**

Recommendation Systems

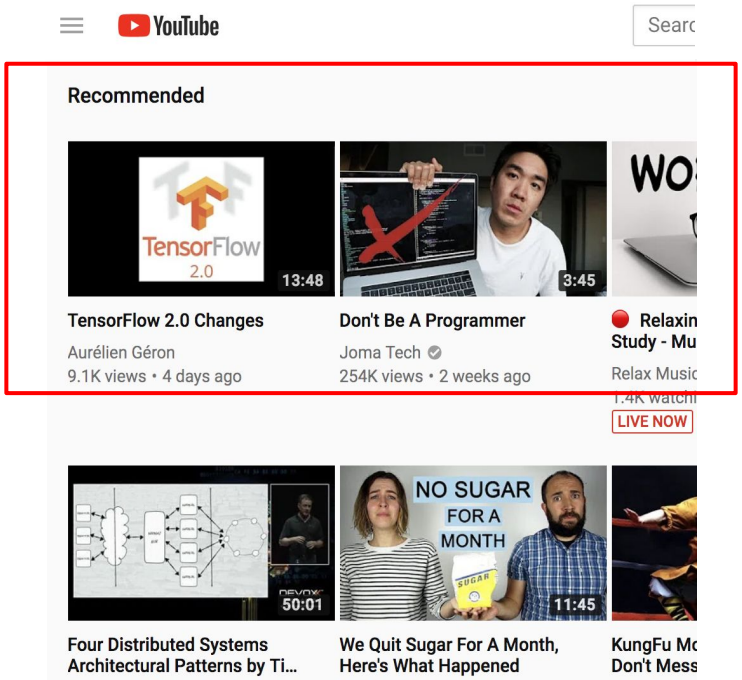
Content-Based Recommendation Systems

Collaborative Filtering

Neural Networks for Recommendation Systems

Building an End-to-End Recommendation System

# Recommendation engines identify things that a user may like based on what they've watched in the past



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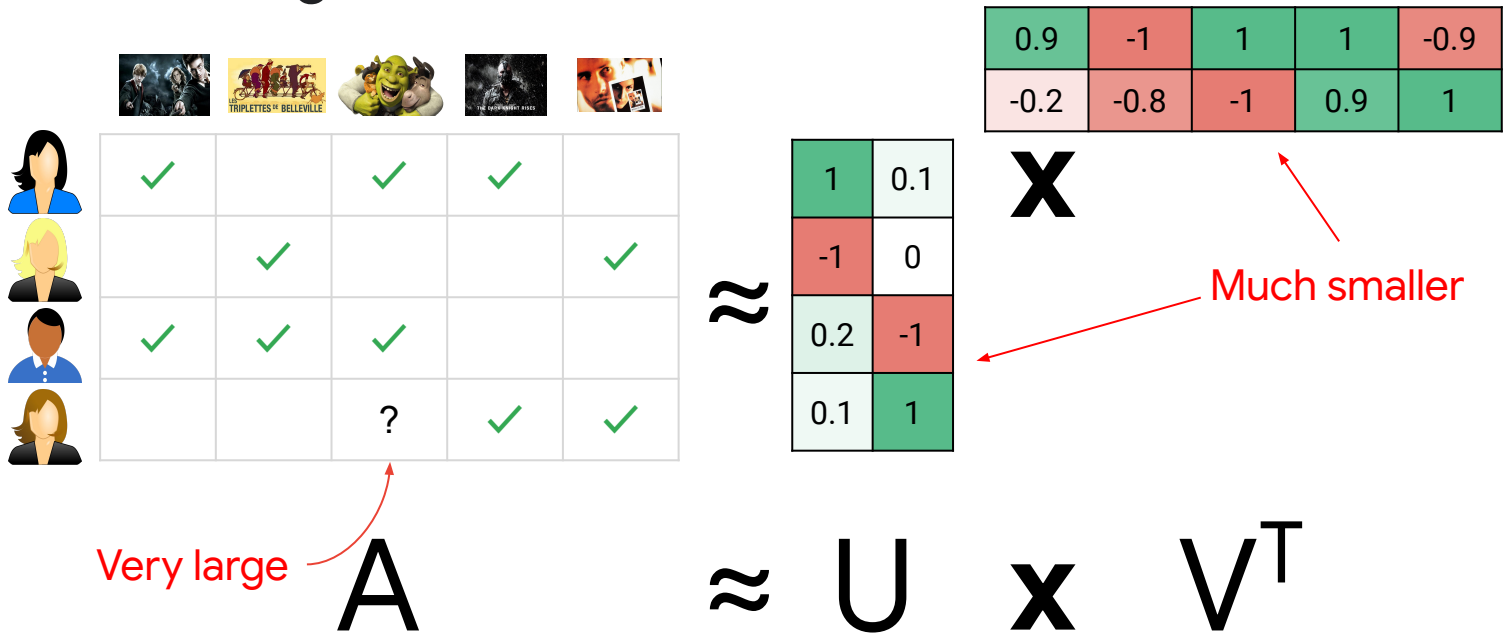
# The factorization splits this matrix into row factors and column factors that are essentially user and item embeddings



# To recommend movies to users, we recommend the movies that we predict they will rate the highest

| | | | | |
|---|---|---|---|---|
| 0.9 | -1 | 1 | 1 | -0.9 |
| -0.2 | -0.8 | -1 | 0.9 | 1 |

| | |
|---|---|
| 1 | 0.1 |
| -1 | 0 |
| 0.2 | -1 |
| 0.1 | 1 |

X

$$0.2*1 + (-1)*0.9 = -0.7$$

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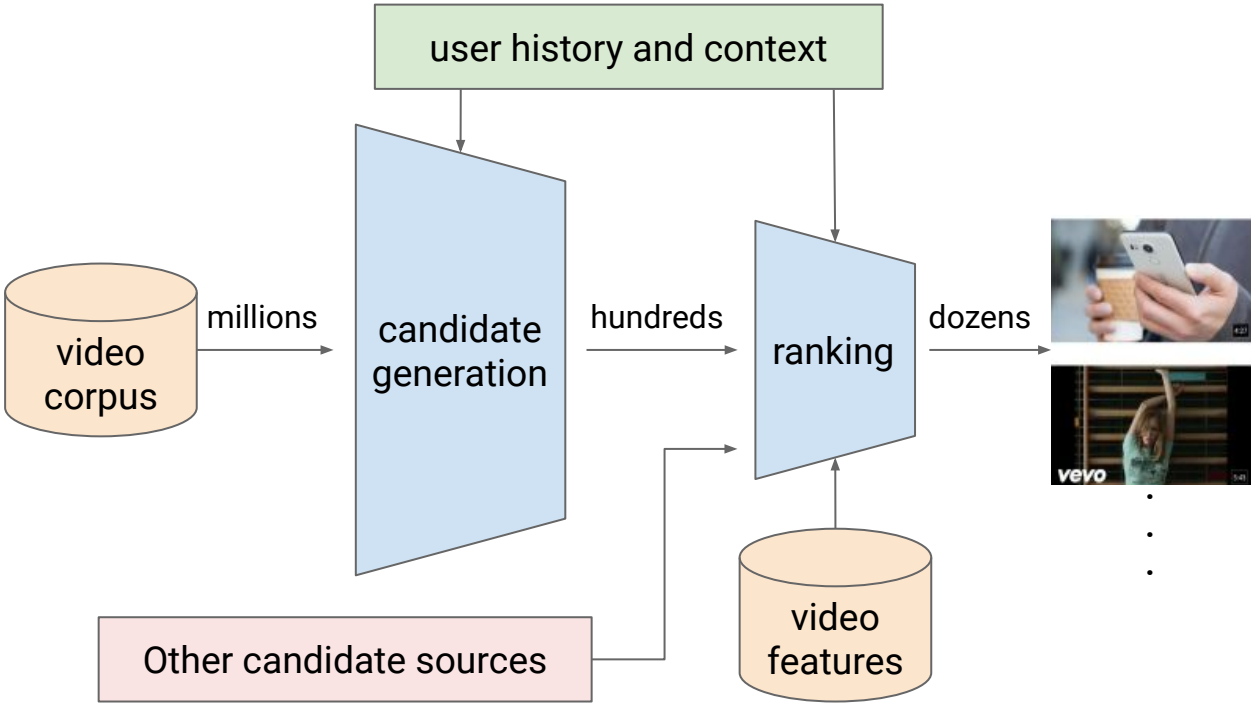
# YouTube video recommendations



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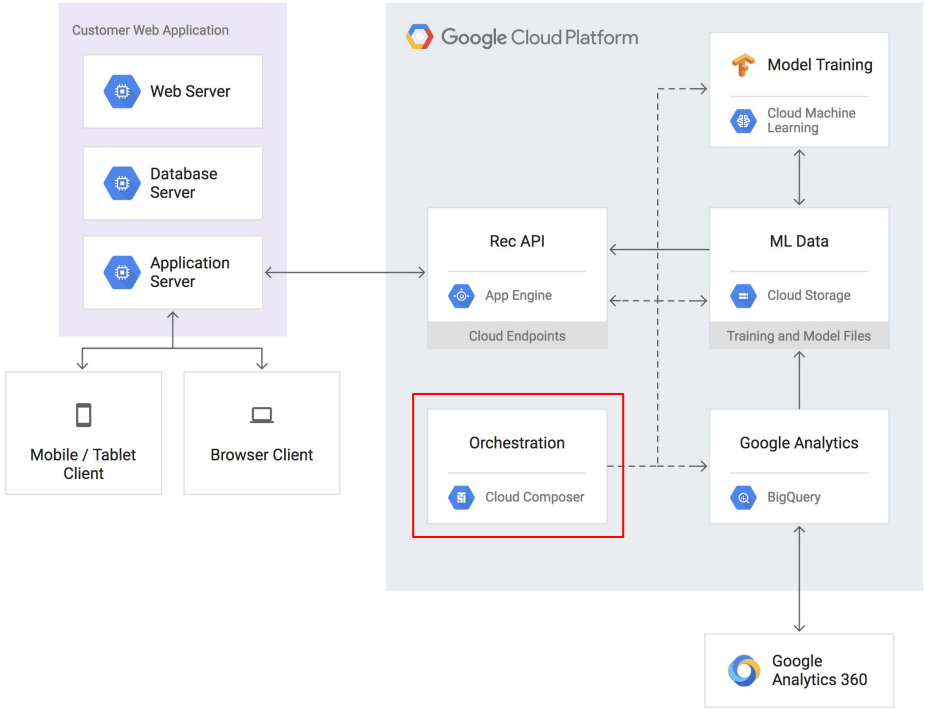
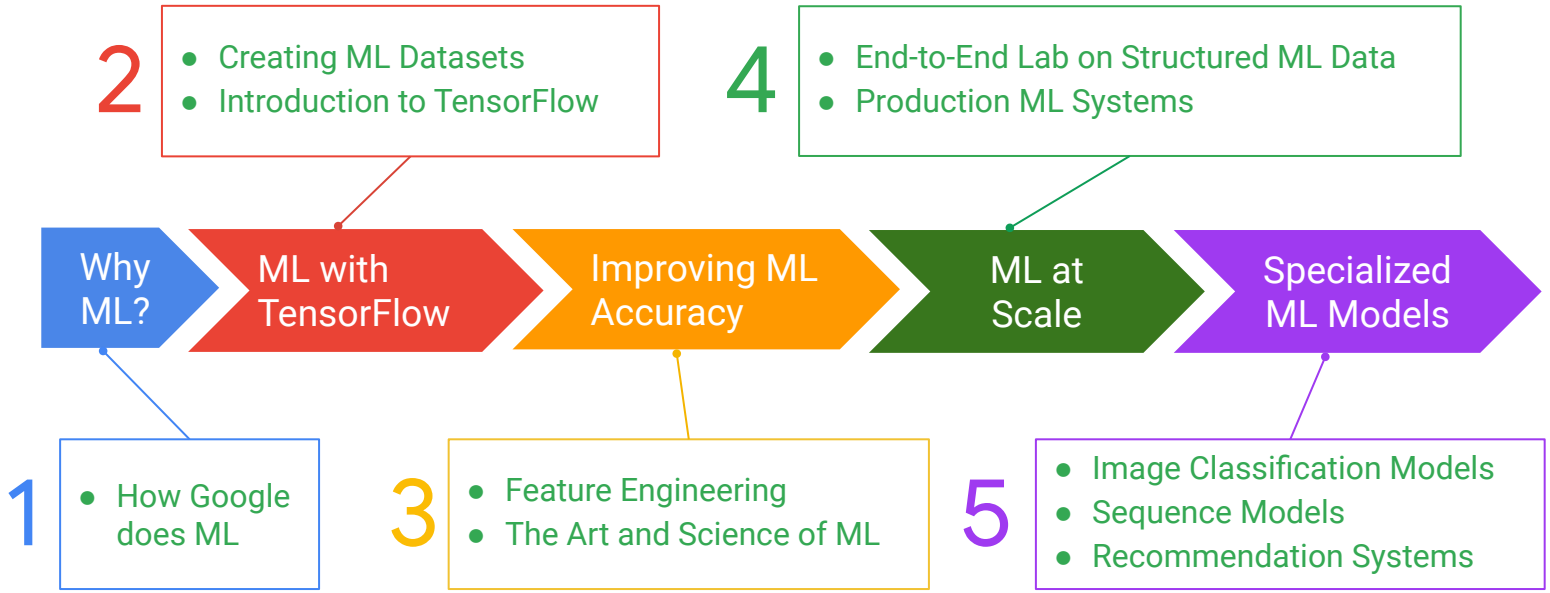
# Architecture of an end-to-end system for recommendations



# Machine learning on Google Cloud Platform



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