Prototyping Deep Scalable Recommender Systems on AWS

Why Recommender Systems?

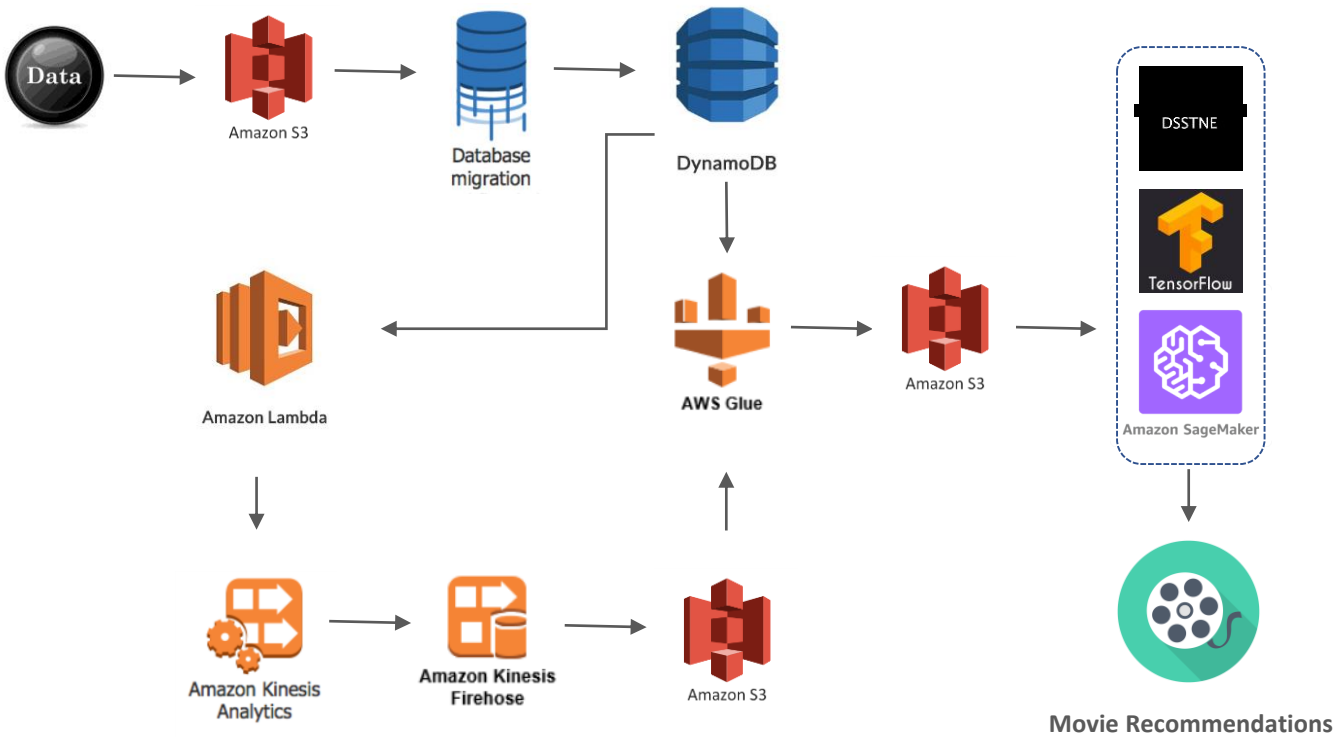
- Increase **Customer Retention**
- Improve **Sales** with cross-selling
- Create **Brand Loyalty** through relevant personalization
- Reduce **search costs**



Is it worth your Investment?

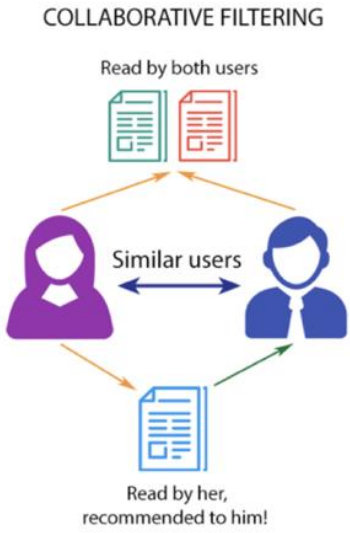
- **67%** of movies watched on Netflix are recommended movies
- **35%** of sales at Amazon arise from recommended products
- **38%** of click-through rates on Google News are recommended links

Process Flow



Amazon SageMaker

- **Fully managed** end-to-end ML service
- Deals with the most **popular algorithms**, regardless of the source
- Build, train and host Machine Learning algorithms at scale with **reduced efforts**

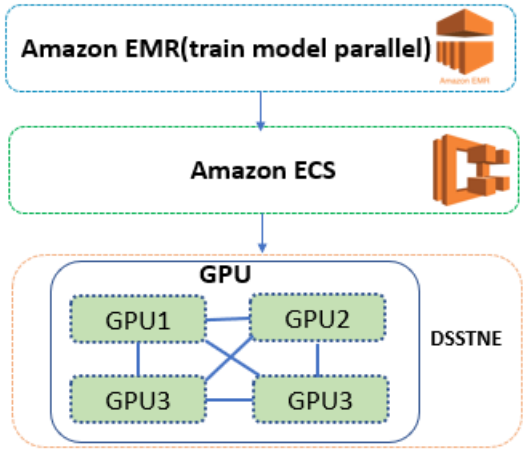


Deep Scalable Sparse Tensor Network Engine (DSSTNE)

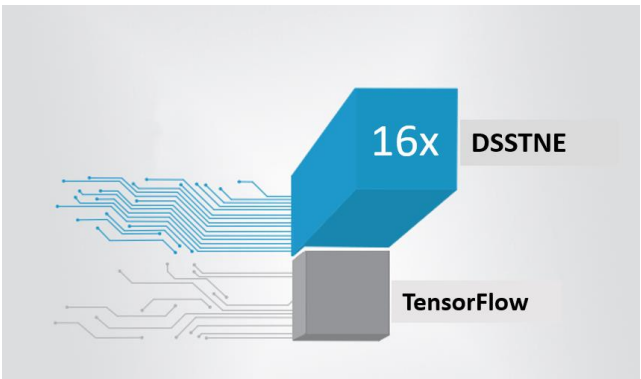
Overview

- **Open source** Deep Learning software library
- Quick and Scalable
- Distributed GPU computing
- Very good on sparse, large datasets
- **Runtime: 20 seconds!**

Scaling



Comparison…



- While SageMaker is a lot easier to work with, DSSTNE has many benefits in terms of speed and performance.
- DSSTNE also performed about **16 times faster** than TensorFlow.

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