

10+10 use cases in Data and AI for Retail in 2020

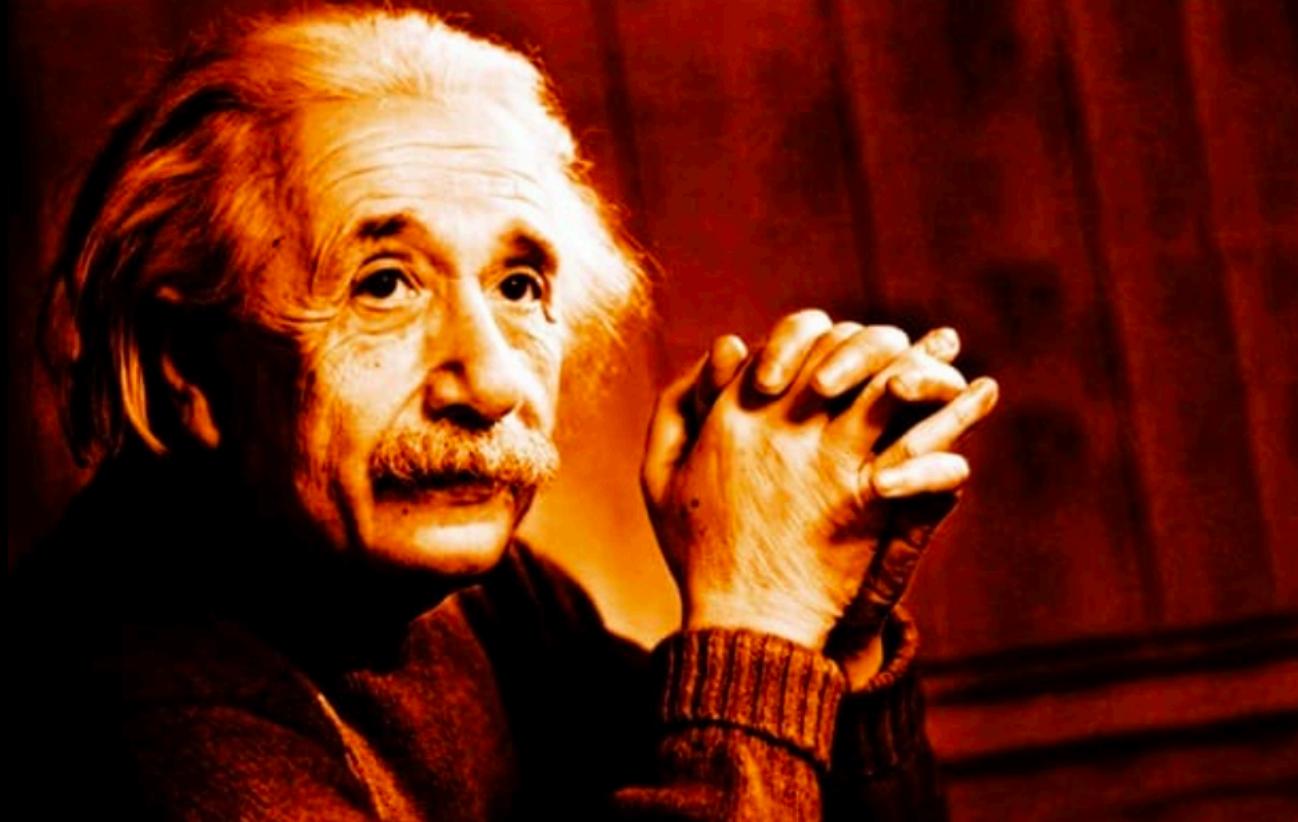
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Disclaimer:

The postings here are personal point of views from my experiences, thoughts, readings from various sources and don't necessarily represent any firm's positions, strategies or opinions.



Motivation



*“You have to learn the rules of the game.
And then you have to play better than
anyone else”.... Albert Einstein*

Agenda

- What are we seeing in the marketplace?
- Data and AI playing crucial role
- Key use cases in Retail which will continue to progress in 2020
 - First set of 10 (focusing on continuous business needs)
 - Second set of 10 (focusing on where more advancement expected)
- References

What are we seeing in the marketplace ?



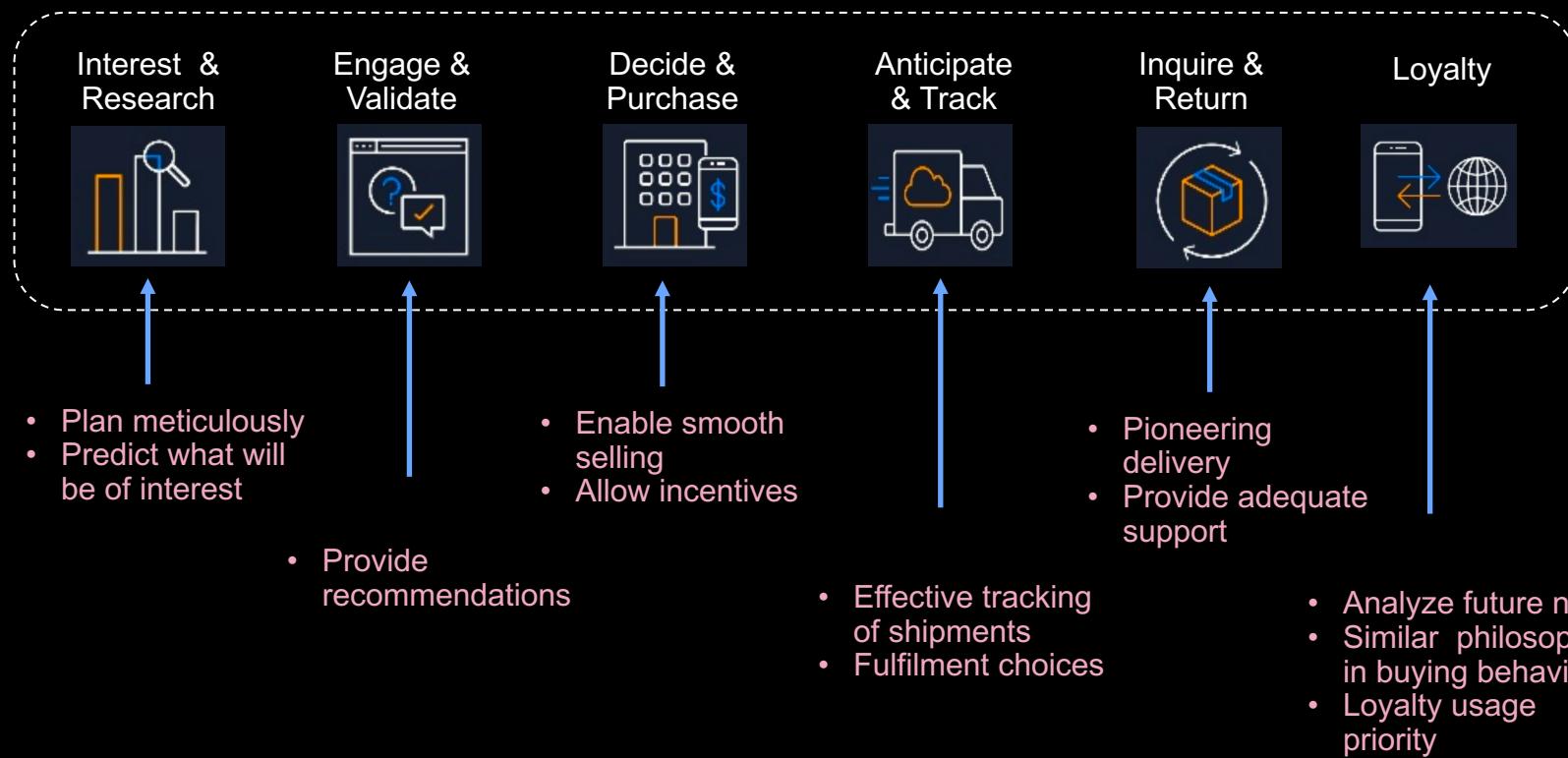
New-gen customers see that they are ever connected via multiple channels, share views and recommendations, receive predictions, experience forecasts made, connect with service center staff for sharing experience, feedback and lot more..



Customer journey focusing on all stages >>>>

Customer >> Across multiple channels

Now, how to understand and solve this ??



Connecting experiences in each stage of journey is critical – which is where Data Science and AI play crucial role

Lead the Journey !!

Additional considerations

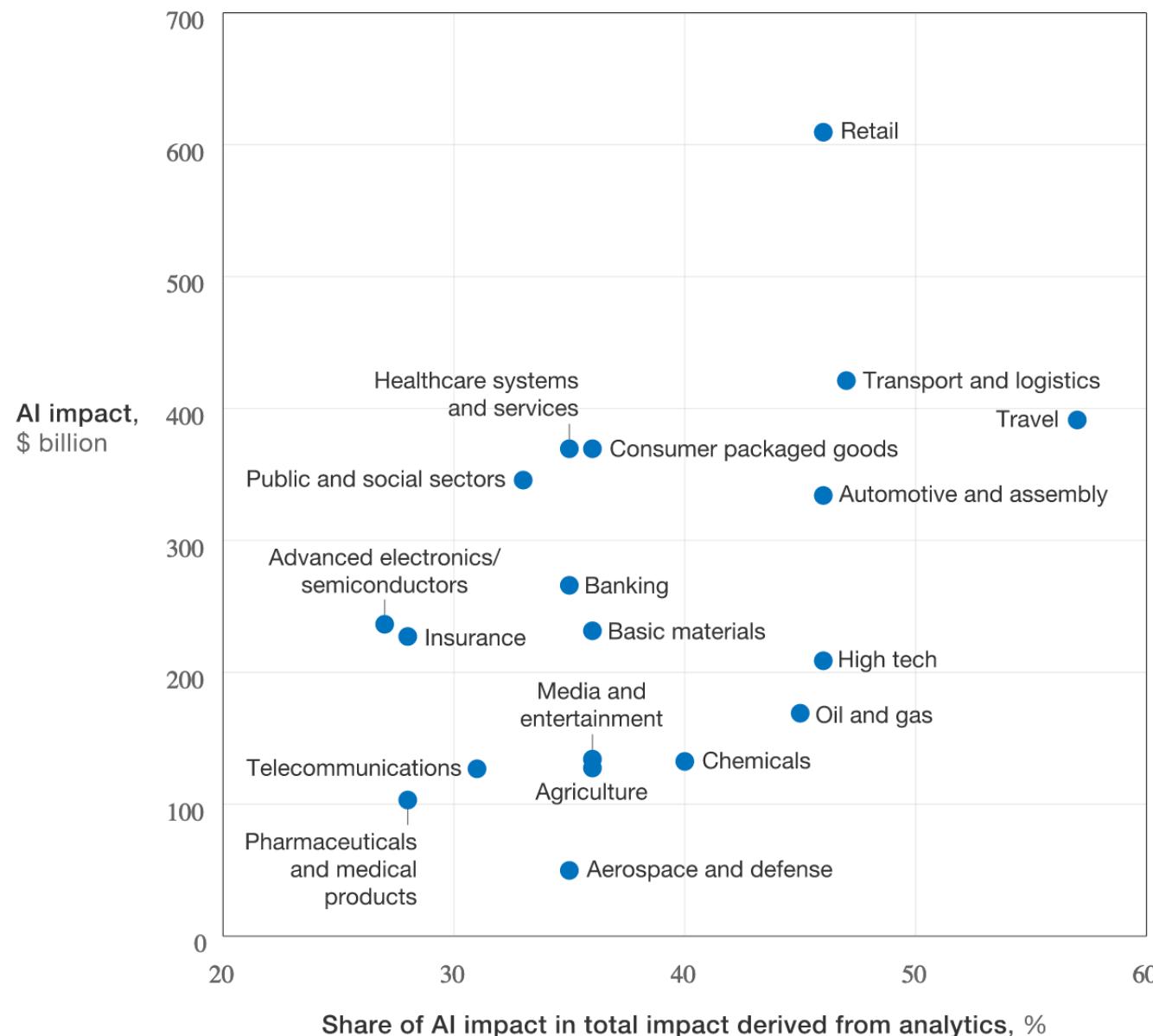
- More intense competition
- Aggressive pricing
- Lot of user behaviour data for analysis
- Expectation of hyper-personalization
- Lot of image data to be analyzed
- Augmented Reality and Virtual Reality
- 5+2 P's
 - Price
 - Promotion
 - Product
 - Placement
 - Productivity
- Process
- Philosophy

Data Science And AI playing crucial and significant role

- Enabling customer centric analysis
- Quick and hyper-personalization focus
- Automation play
- Optimization and efficiency
- Leverage visual data to drive effectiveness
- Improved and proactive fraud detection
- Predictive maintenance

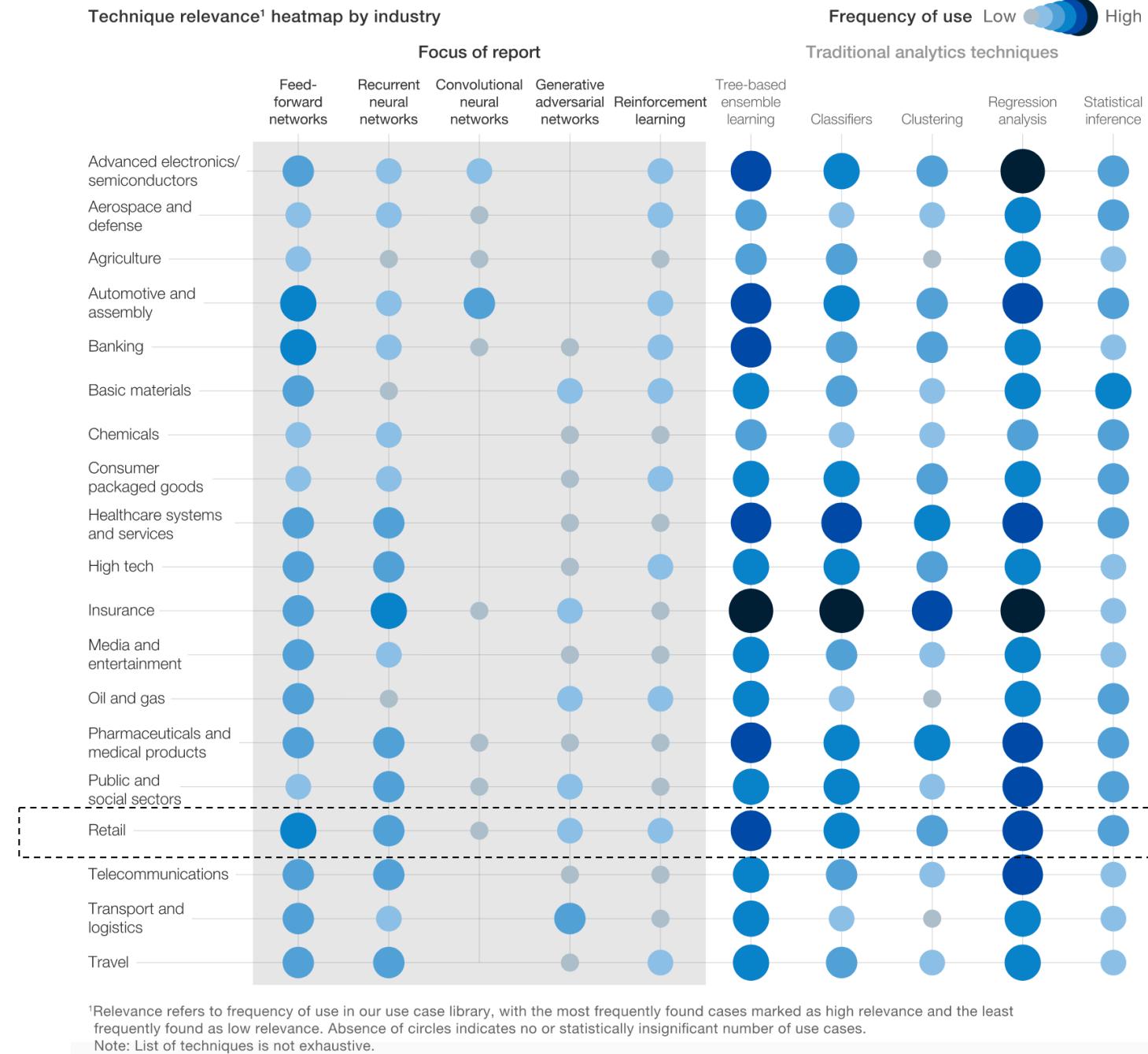
As per
Mickinsey,
Retail industry
seems to have
highest impact
and value
creation from
Data and AI

Artificial intelligence (AI) has the potential to create value across sectors.



Advanced deep learning can be applied alongside more traditional analytics and algorithms

- McKinsey reference



First set of 10 use case themes

- Hyper Personalization
 - Use a chatbot for personalized assistance, product recommendations, and customer-service queries
 - Route call-center cases based on multimodal data to increase customer satisfaction and reduce handling costs
 - Use customer data to personalize promotions
 - Implement a next-product-to-buy algorithm for cross-/up-sell in e-commerce combined with personalized promotions using customer-level data
- Customer Behaviour Analysis
 - Use social media listening to target the right demographic for loyalty programs
- Automation
 - Automate transaction calls using voice recognition algorithms and cognitive agents
 - Warehouse store keeping based on robots induced by robotic process automation processes

First set of 10 use case themes

- Optimization
 - Use pricing optimization to identify improvement and price-perception opportunities
 - Optimize thematic and weekly product promotions using historical SKU performance data
 - Perform full assortment optimization using information such as walk rates, space sensitivity and duplication
 - Optimize aggregate marketing mix and marketing spend

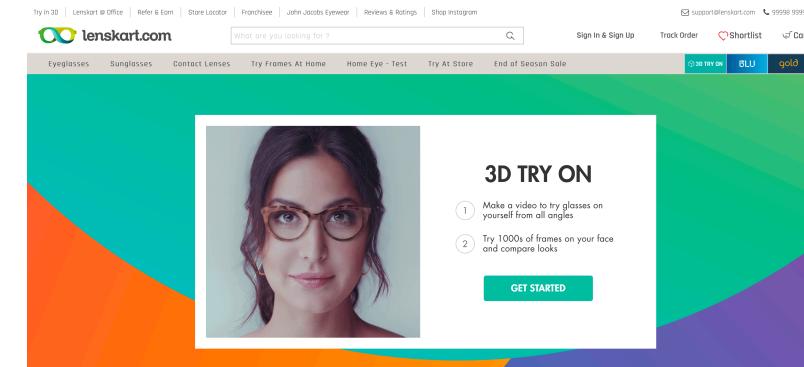
Next set of 10 use case themes

- Analyze and Lead the whole Customer Journey process
 - Employ digitized end-to-end supply-chain planning for advanced inventory modeling and out-of-stock prevention
- Predictive Maintenance
 - Increase Availability of assets at store with ML/DL
 - Optimize replenishment by analyzing a large set of data daily to maximize availability while minimizing risk of waste
 - Manage supply inventory by predicting component level SKUs
- Advanced Optimization
 - Use route-optimizing algorithms to reduce driver shifts, hauling costs, and travel times
 - Optimize inbound and outbound delivery network, asset utilization, and warehousing operations

Next set of 10 use case themes

- Better staff management leveraging Machine Learning
 - Reduce store labor and increase shopper convenience via a checkout-less store
- Advanced Optimization
 - Use route-optimizing algorithms to reduce driver shifts, hauling costs, and travel times
 - Optimize inbound and outbound delivery network, asset utilization, and warehousing operations
- Inventory and Demand planning
 - Predict hyper-regional sales/demand trends using real-time data
 - Customize the carried inventory at the store level (eg, using zip code income data)

Examples



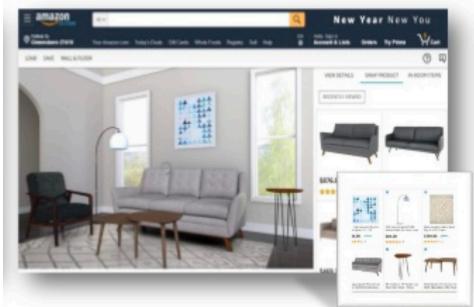
Amazon Beauty



AR View

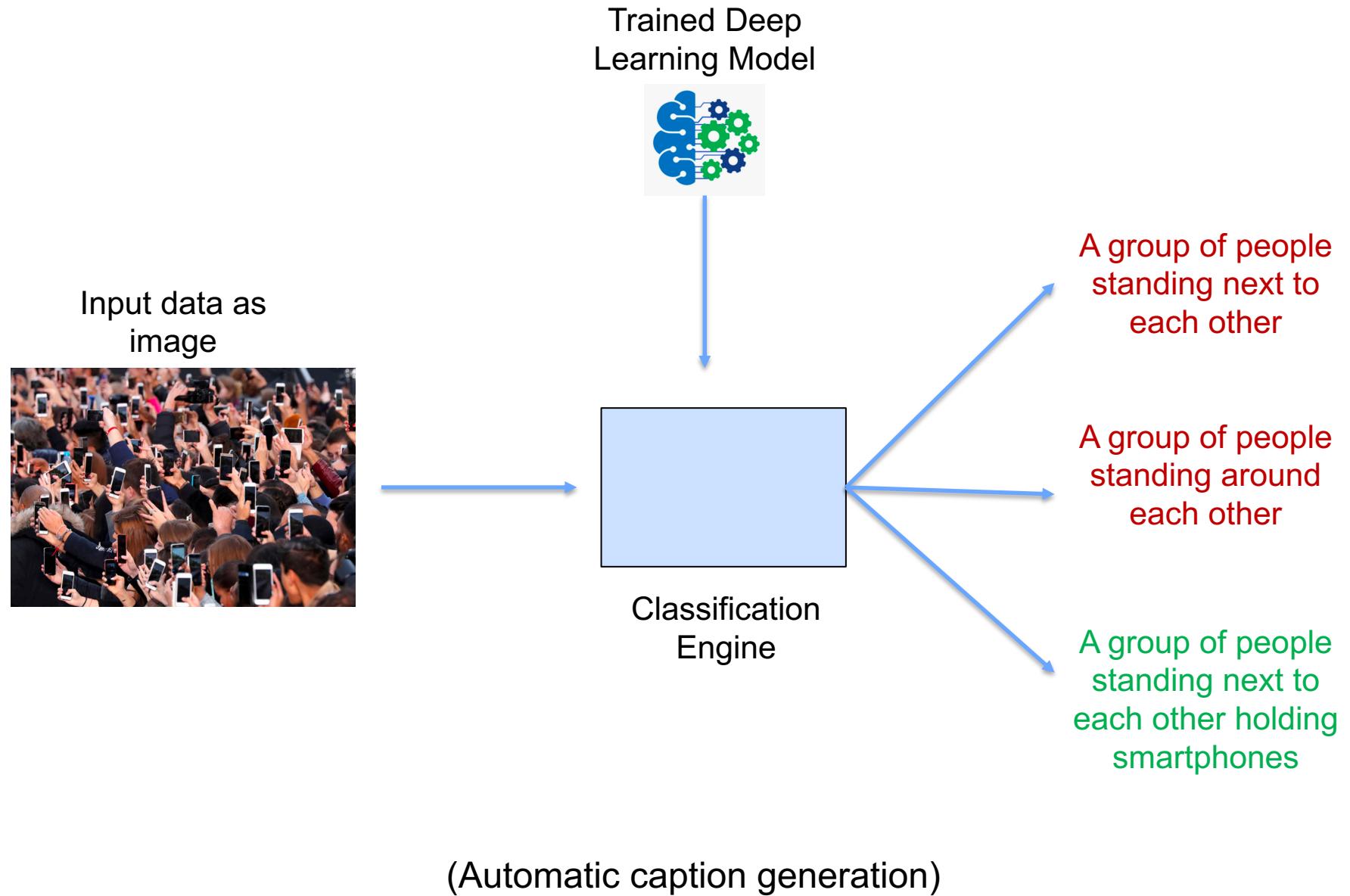


Amazon Showroom

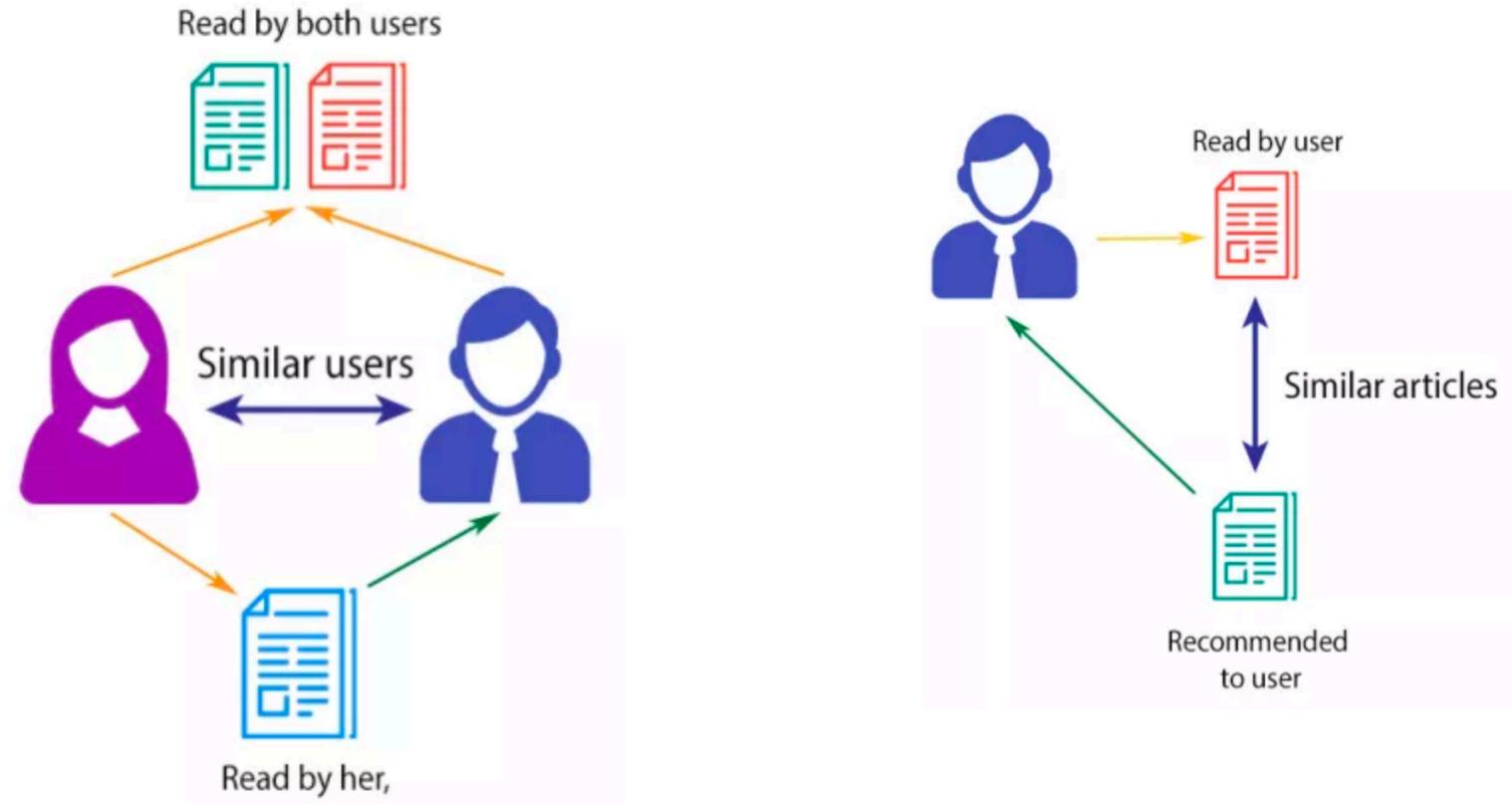


(Augmented Reality assisting visual search + Visual image tagging to provide practical customer “feel” experience)

Examples



Examples



(Recommendation based on collaborative filtering and content based filtering)

Examples



(Image based clustering of products)

References

- “Notes from the AI Frontier: Applications and value of deep learning” by Mckinsey - <https://www.mckinsey.com/featured-insights/artificial-intelligence/notes-from-the-ai-frontier-applications-and-value-of-deep-learning>
- Amazon Go –
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 - Video: <https://www.youtube.com/watch?v=NrmMk1Myrxc>
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- Attribution Modeling - <https://www.linkedin.com/pulse/attribution-modelling-retail-what-why-how-andy-donaldson>
- Past predictions that was for 2019 -
<https://www.forbes.com/sites/gregpetro/2019/01/04/10-predictions-for-retail-in-2019/#7ce568975f13>

Questions??

Thank you



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