Personalized Fashion Recommendation using Pairwise Attention

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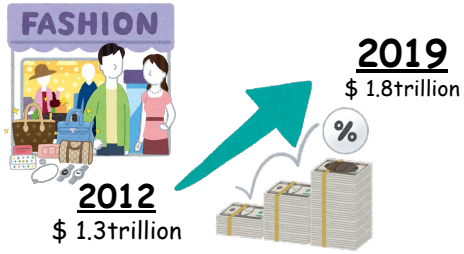
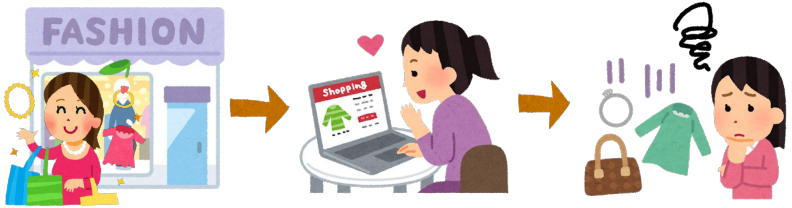
Introduction

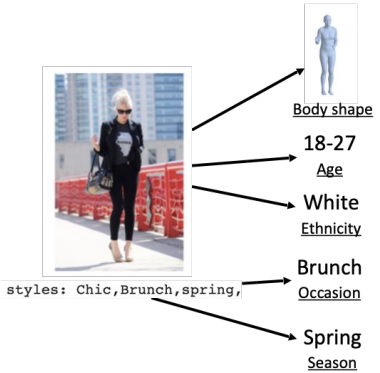




Motivation

Problem 1: Low variety in dataset

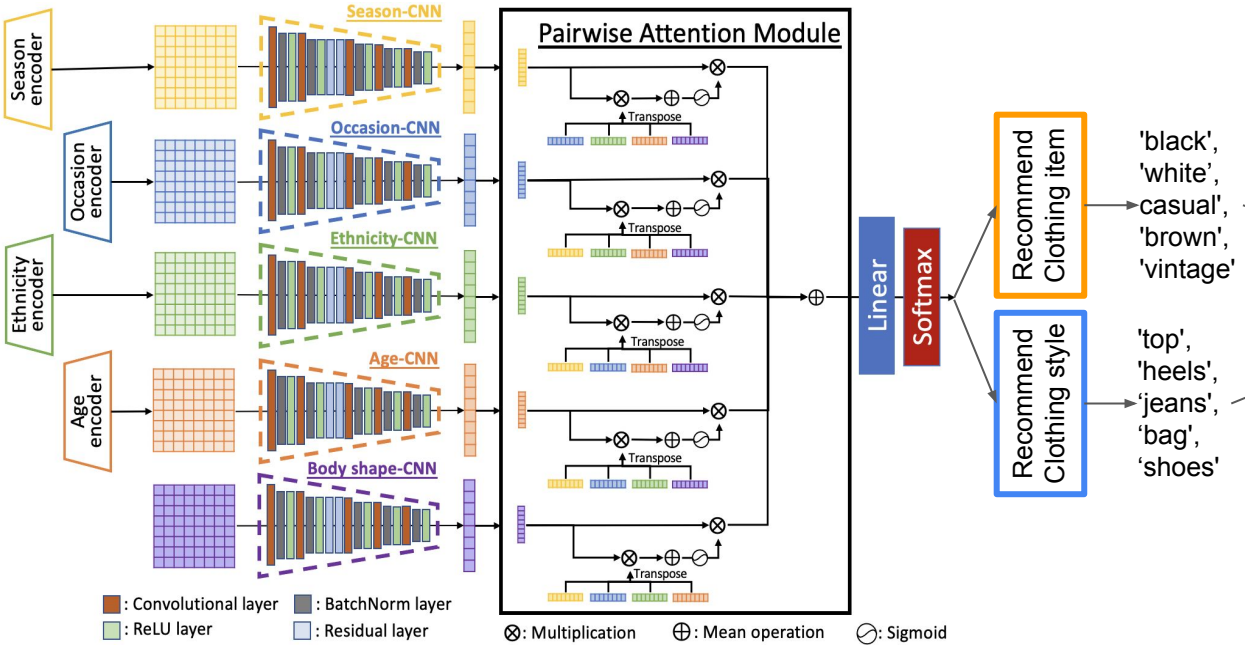
Problem 2: Lack of personalization



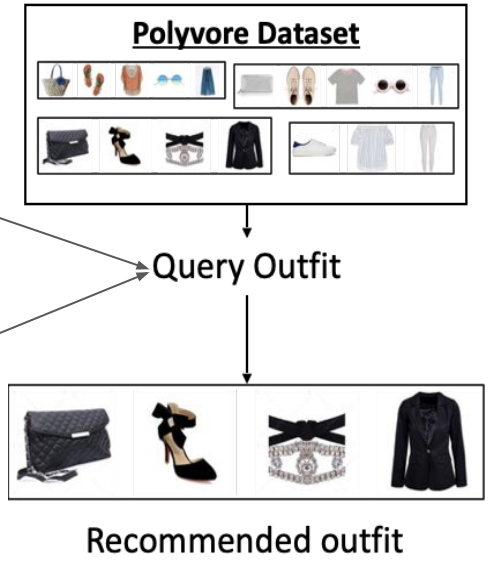
We want to make the recommendation systems more personalize based on user's info.

Our architecture

Recommendation stage



Query stage



Results

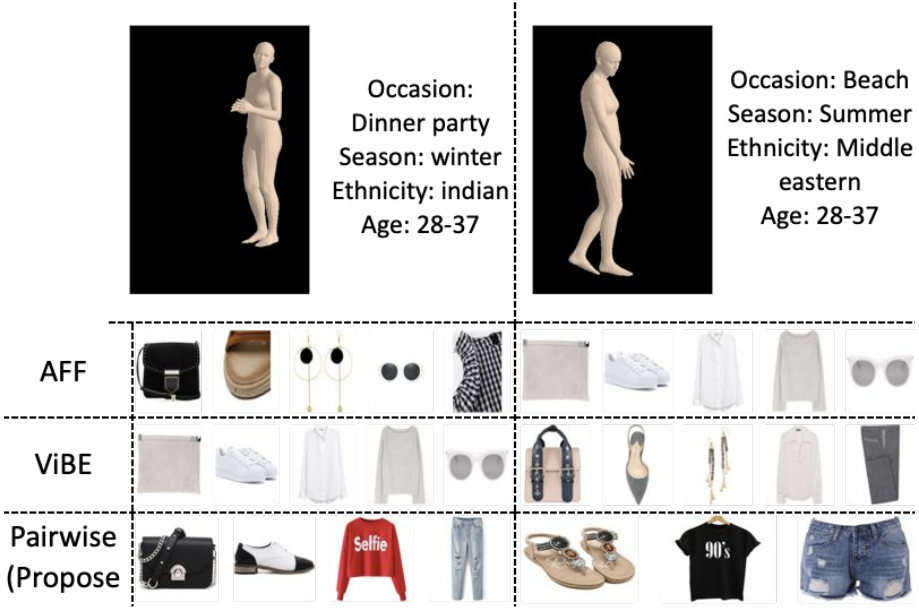
- Quantitative result

	Item recommendation				Attribute recommendation			
Model input	**mAP@5**	**mAR@5**	**mAP@20**	**mAR@20**	**mAP@5**	**mAR@5**	**mAP@20**	**mAR@20**
VIBE (Comparison method)	0.4859	0.4865	0.7103	0.6108	-	-	-	-
AFF (Naïve)	0.5708	0.5714	0.8165	0.8676	0.7427	0.5701	0.7810	0.4356
Occasion + Season + Age	0.8039	0.8045	0.8773	0.8822	0.7849	0.7854	0.7991	0.7789
Occasion + Season + Age + Ethnicity	0.8279	0.8286	0.8893	0.8900	**0.8842**	0.6263	**0.9459**	0.2871
Occasion + Season + Age + Ethnicity + Body shape	**0.8311**	**0.8316**	**0.8907**	**0.8905**	0.8377	**0.8382**	0.8188	**0.8203**

Tbl.1 quantitative results comparisons of the proposed method and comparison method

Results

- Qualitative result



- Questionaire result
  - Number of participants (Ethnicity: Asian)
    - 31 (21 Female, 10 Male)
  - Questions
    - 43 queries (Ethniciy: Asian with random occasion, season, age)

Model	Female	Male	SUM
Comparison (ViBE)	9	4	13 (41.94 %)
Proposed	12	6	18 (58.06 %)

Tbl.2 Score for each method chosen by participant

Conclusion

- Our method can provide more personal recommendations and more variety in clothing items.
- Limitations and Challenges
  - Imbalance and entanglement problem in the dataset
  - Lack of relation between clothing item and attribute

Thank you!

End of presentation!