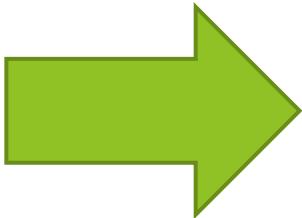


IMG2RECOMMENDER

An Introduction

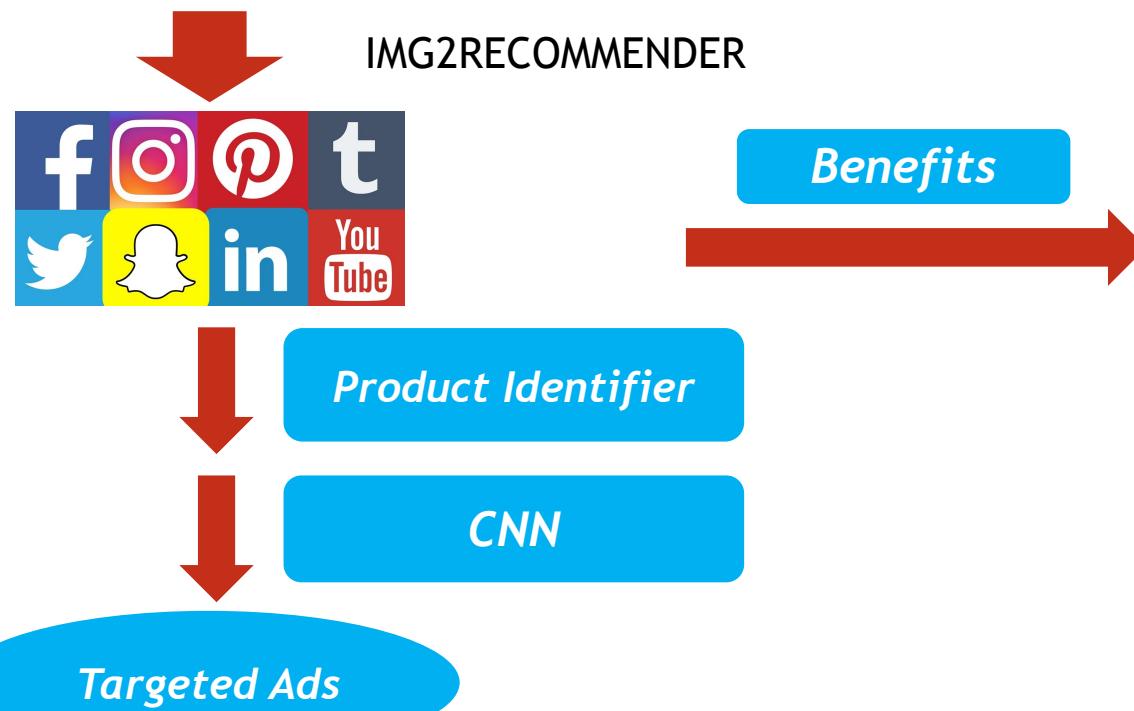


Mindy Zhou

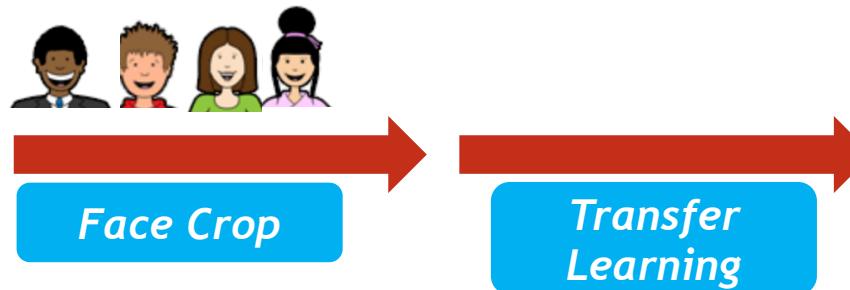
Business Understanding



- Ad clicks: up to 3 dollars/click
- Influencer Endorsements: up to 75,000 dollars per endorsement



This Project: Step 1 FACE2HBE



*Real Example
Demonstration:*



Face Crop

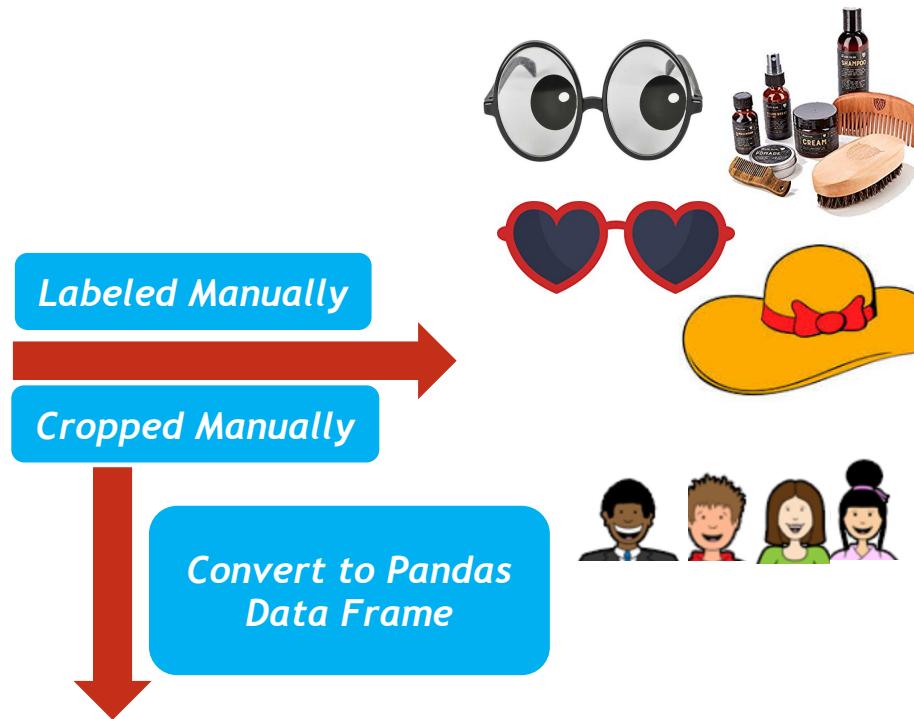
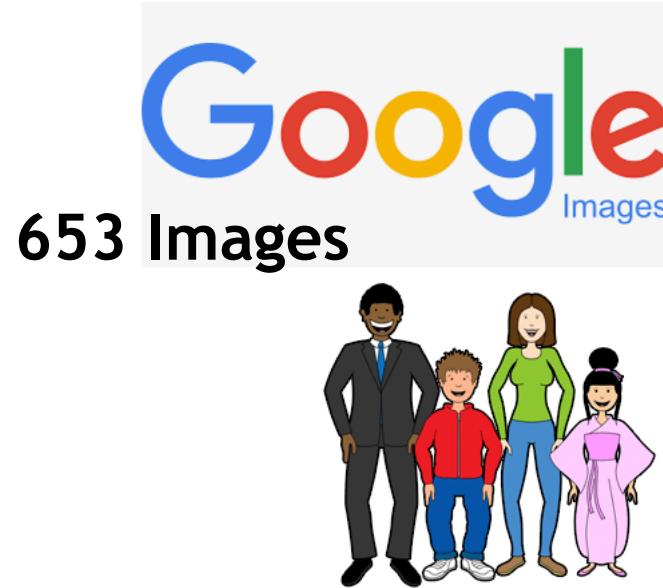
We recommend hat products to this IG user!



Recommendation

Note: Only recommend one product per person.

Data Understanding and Preparation



	pic_id	eyewear	hat	beard
0	00018.jpg	0	0	1
1	00034.jpg	0	0	1
2	00048.jpg	1	0	0
3	00053.jpg	1	0	0
4	00061.jpg	1	0	0

Modeling and Application

Transfer Learning
VGG16 ResNet50



Base Models

One Versus Rest
multi-classification



hat versus no hat



eyewear versus no eyewear



beard versus no beard



Model Predictions
Using All Models

Save 6 best models

3 classifiers for
VGG16

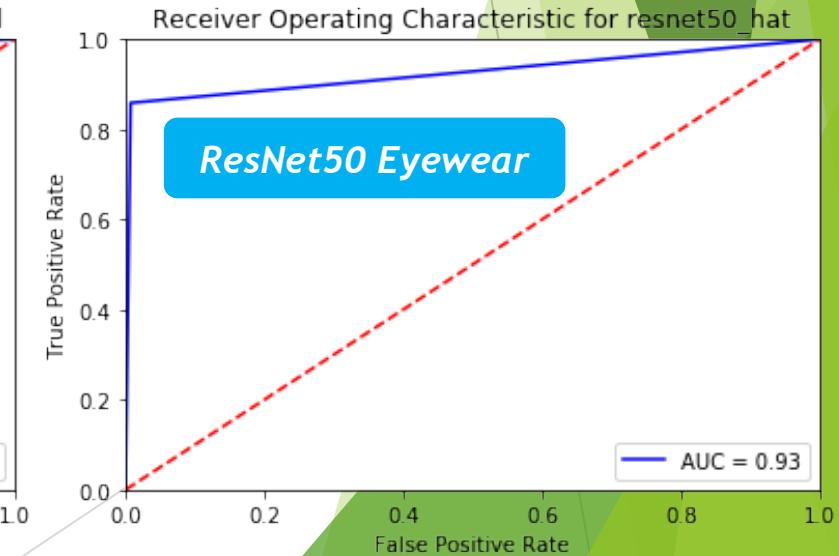
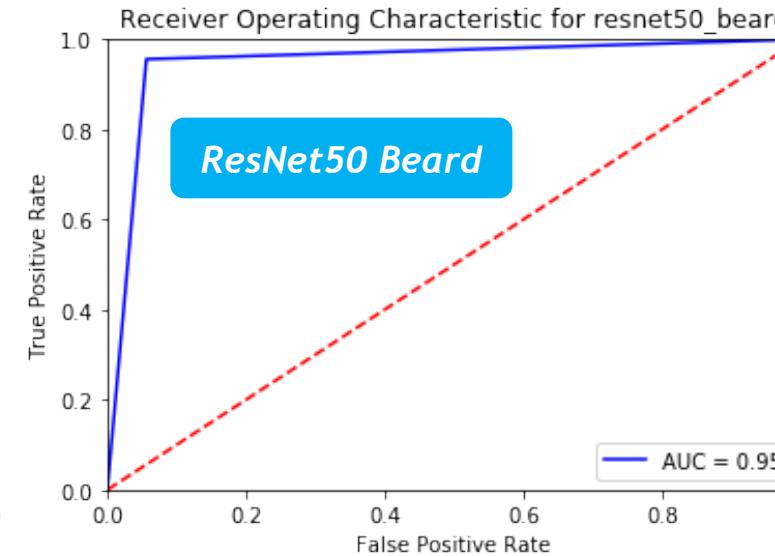
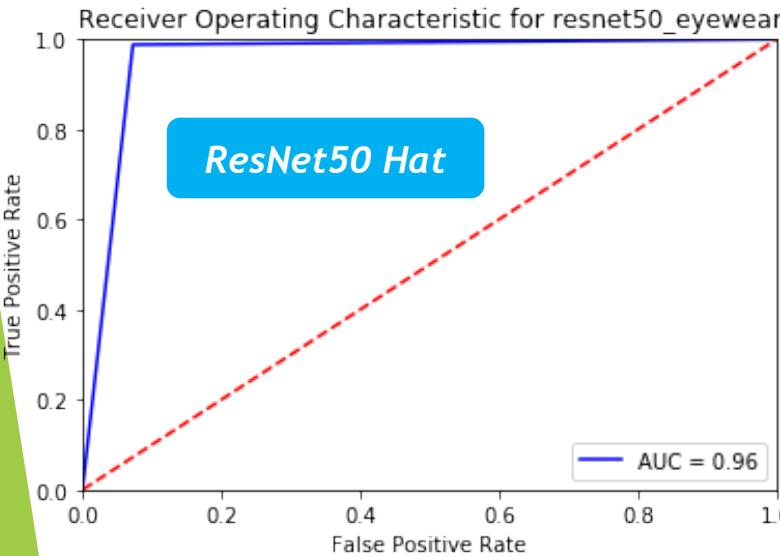
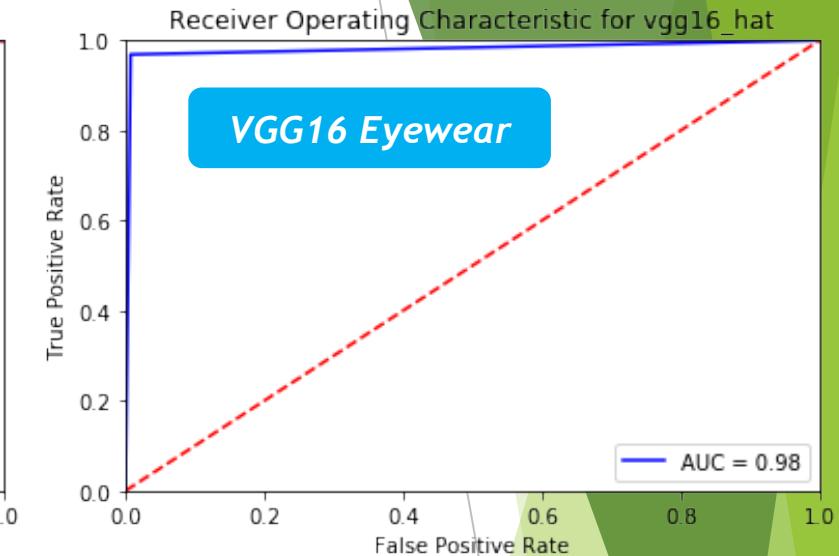
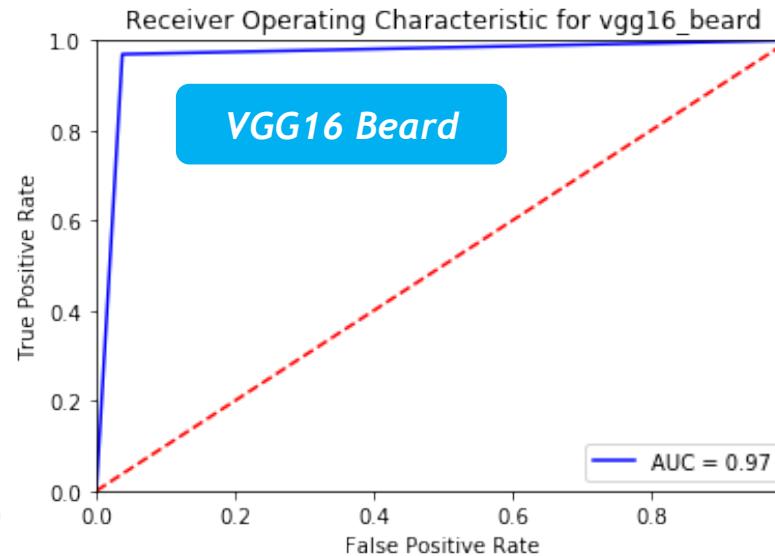
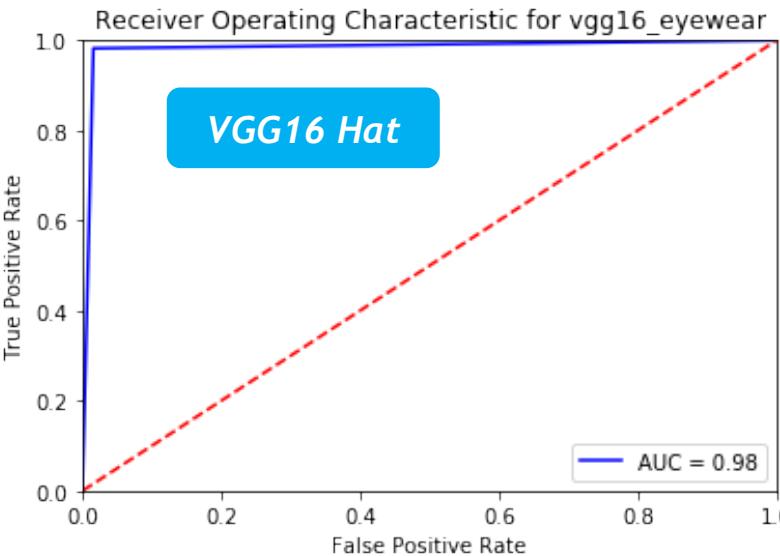
3 classifiers for
ResNet50

Average Predictions
for Each Label

Pick the label with the
highest average
prediction rate



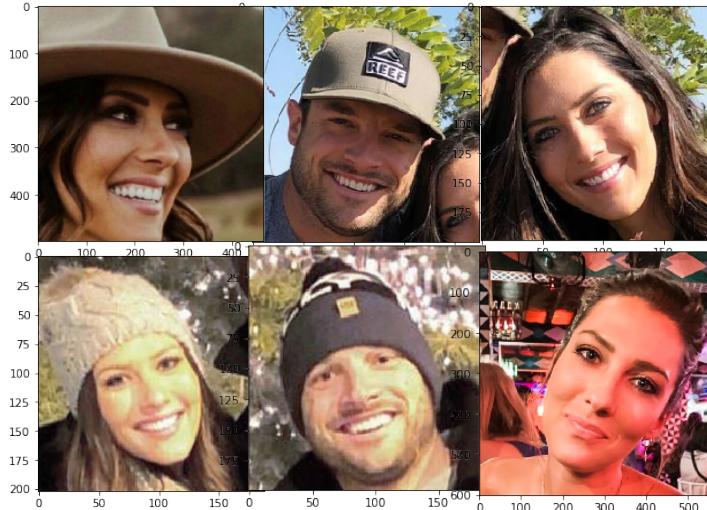
Model Evaluation Results: ROC and AUC



Deployment/demo:



Instagram



We recommend hat products to this IG user!



Blog Post:

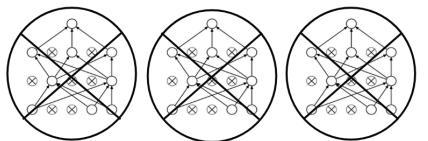
<https://medium.com/data-science-blogs/deep-learning-for-social-media-marketing-7c197f0c729>

Local program:

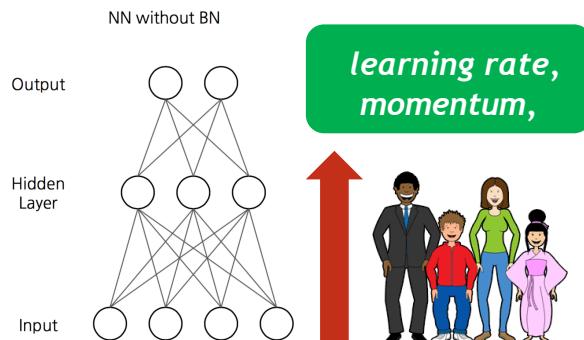
https://github.com/mzhou356/img2recommender/blob/master/python_files/product_recommender.py

Future Plans

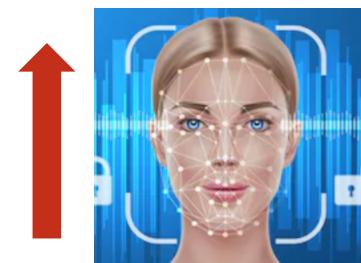
FACE2HBE



Dropout.



*Train more layers
Transfer Learning to
CNN*



IMG2RECOMMENDER



Questions?

Acknowledgements

- ▶ Talented husband, Dr. Jason N. Dossett for setting up GPU and help with computer hardware.
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- ▶ Peter Haferl from July cohort for real example demonstration in slide 3.
- ▶ Flatiron instructors and coaches for discussing and providing helpful insights.
- ▶ Wonderful students at Flatiron for being positive and encouraging.

Sources:

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- ▶ <https://www.esquire.com/lifestyle/news/a48223/celebrities-paid-ad-content-social-media/>

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