



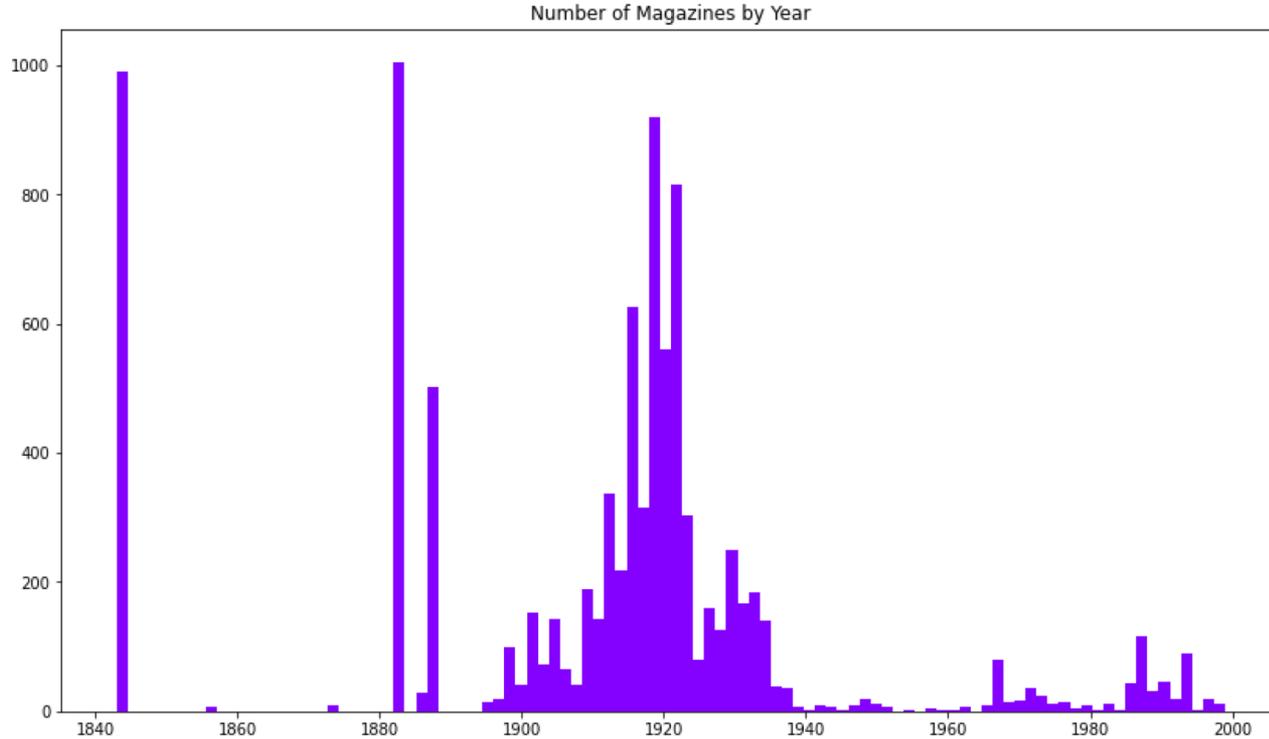
Visual Impact of Images in Europe

Magazine strategies of Life, Elle and National Geographic

By Maxime, Juliette, Nathan, Krister, Raphael, Blaise, Claire



Introduction





1992-12 [02]

1993-01 [03]

1993-02 [4]

1993-03 [5]

1993-04 [06]



1993-05 [07]

1993-06 [8]

1993-07 [09]

1993-07 [suppl]

1993-08 [10]



1993-09 [11]

1993-09 [suppl]

1993-10 [12]

1993-11 [13]

1993-12 [14]

VOL. 167, NO. 6 JUNE 1985

NATIONAL GEOGRAPHIC

GREAT SALT LAKE:
THE FLOODING
DESERT 634

U. S. - MEXICAN BORDER:
LIFE ON THE LINE 730

JAVA'S WILDLIFE RETURNS 750

**Along Afghanistan's
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*Estimated one half of an
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FAIR SKIES FOR THE CAYMAN ISLANDS 798

SEE NATIONAL GEOGRAPHIC EXPLORER EVERY SUNDAY ON NICKELODEON CABLE TV

LIFE

NOVEMBER 30, 1936 **10** CENTS

Elle



2001-01



2001-02



2001-03



2001-04



2001-05



2001-06



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1993-06 [8]



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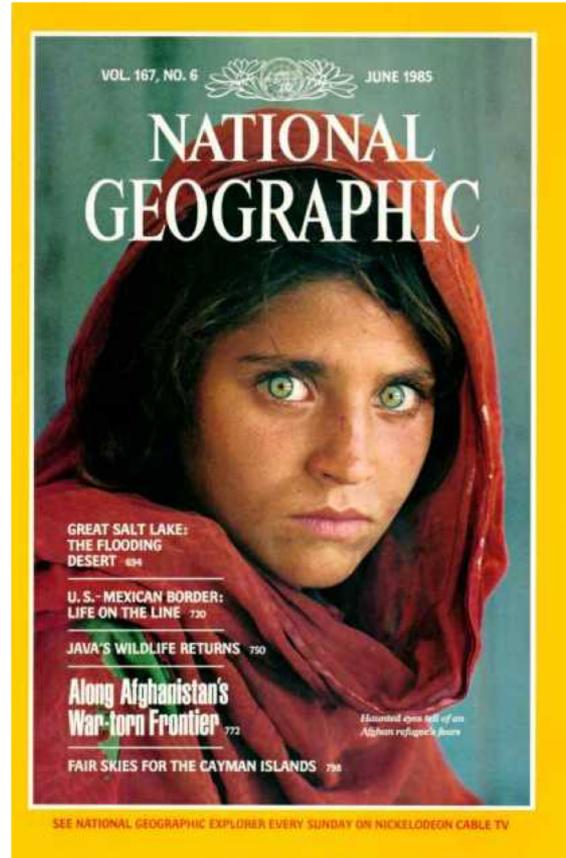
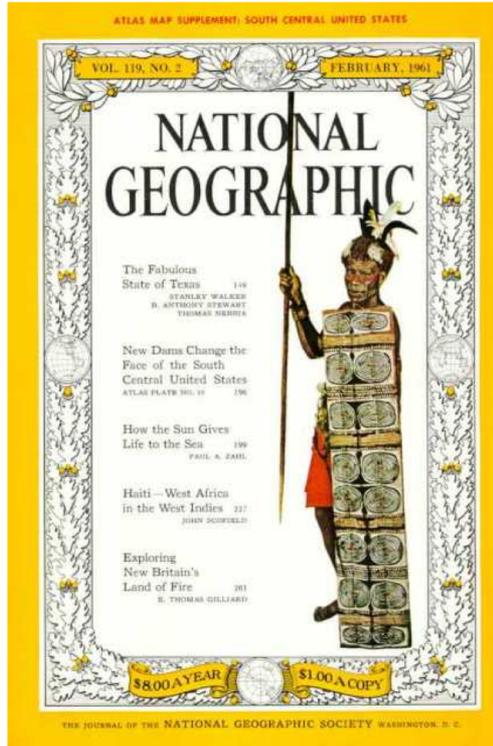


1993-11 [13]

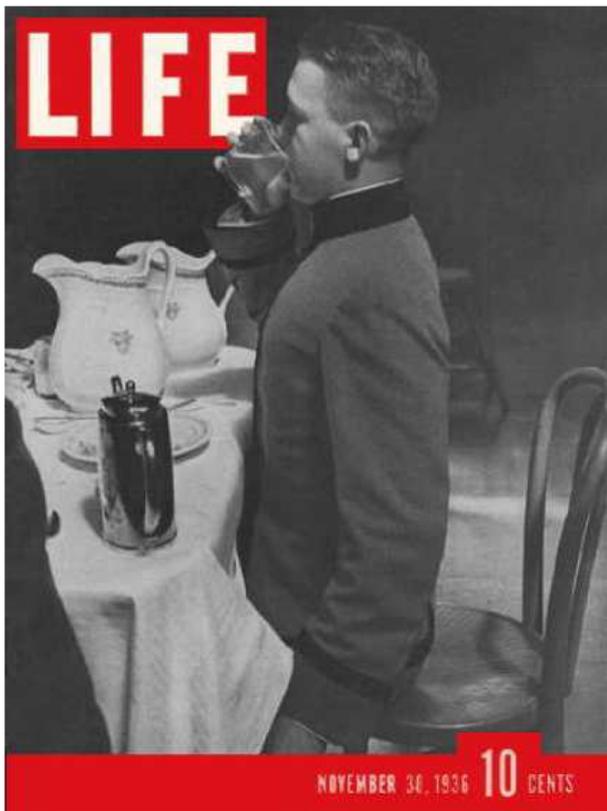


1993-12 [14]

National Geographic



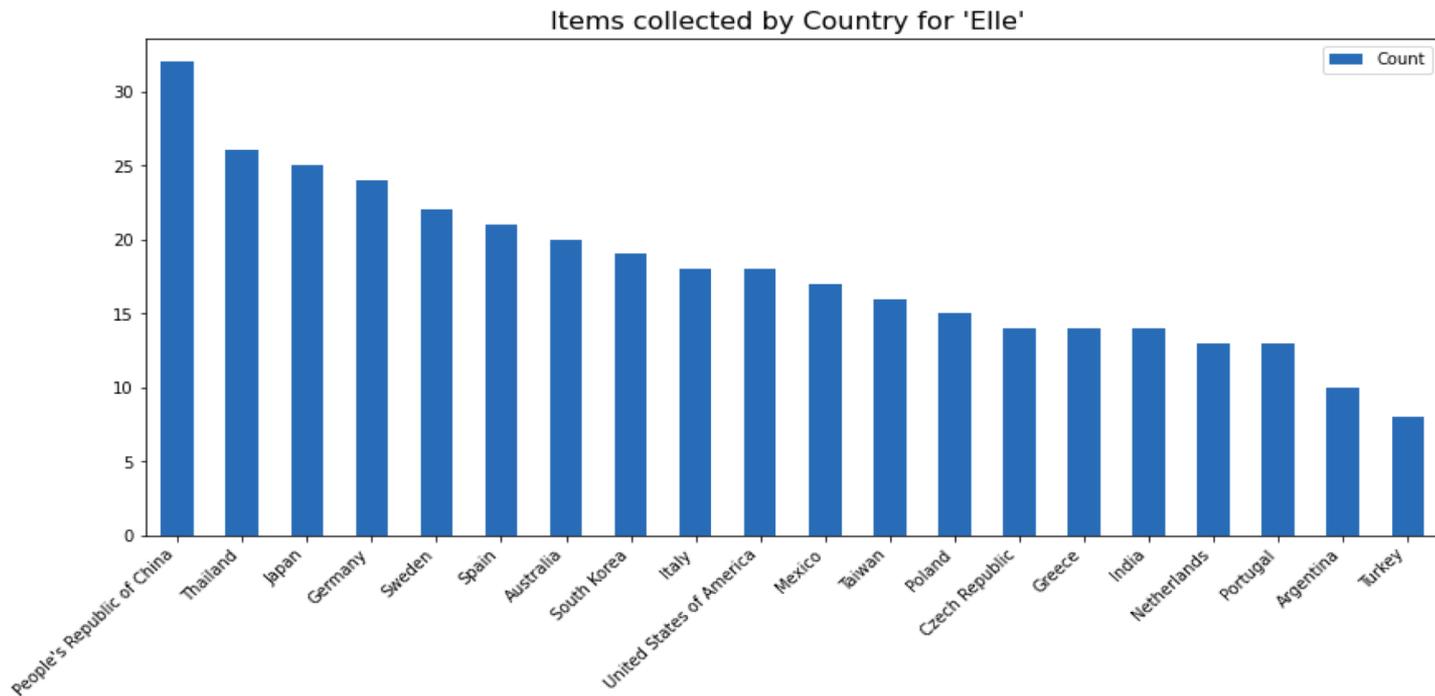
Life



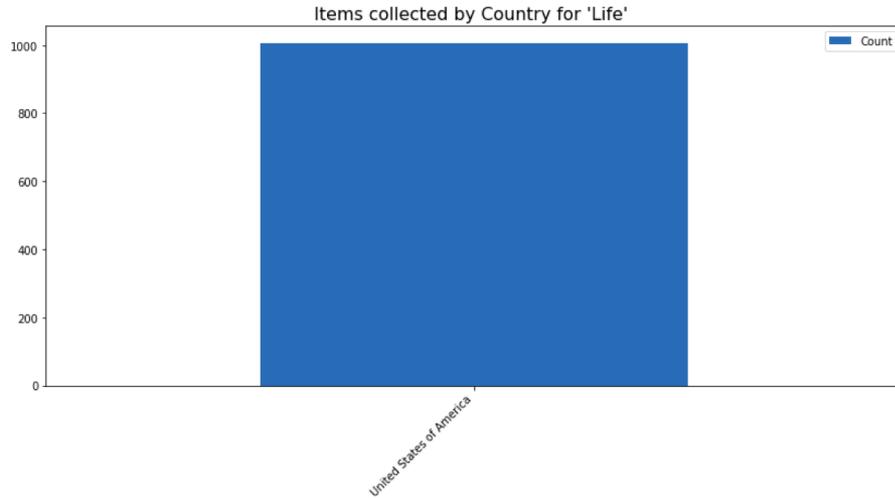
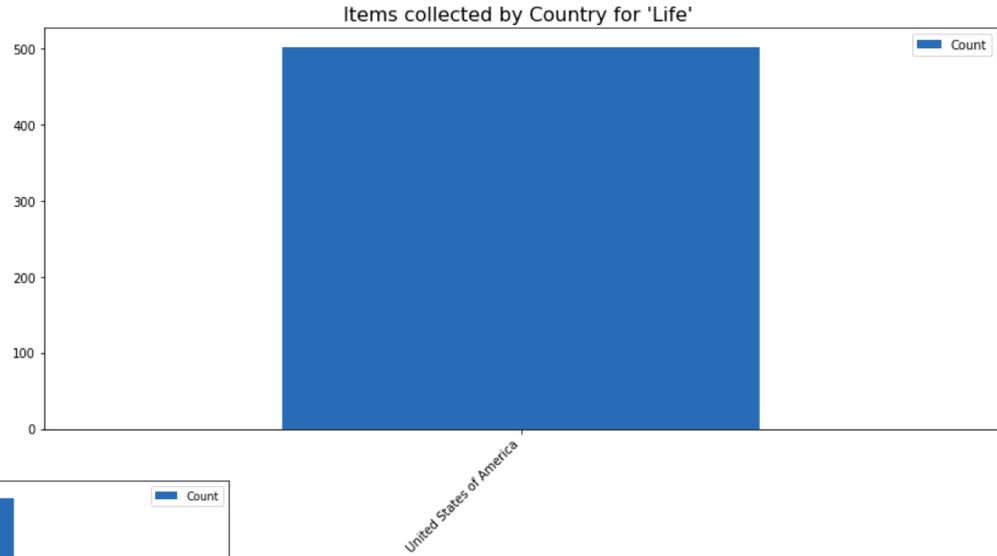
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Concerning *Elle*



Concerning *Life* and *National Geographic* *Geographic*





1992-12 [02]

1993-01 [03]

1993-02 [4]

1993-03 [5]

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1993-07 [suppl]



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1993-09 [11]



1993-09 [suppl]



1993-10 [12]



1993-11 [13]



1993-12 [14]

Problematics

First questions that came in our minds:

- Questions about colors
- Questions about what is in the image
- Question about labelation and level of precision

Second type of questions:

- Questions about representation of minorities and its evolution
- Question about gender
- Question about age

Summary

- Problematics : What were our concerns.
- Procedure : How we organise ourselves.
- Choices : Asimov was right, but we fought.
- Results : What we were finally able to do.

Choices : What we wanted and what machines can.

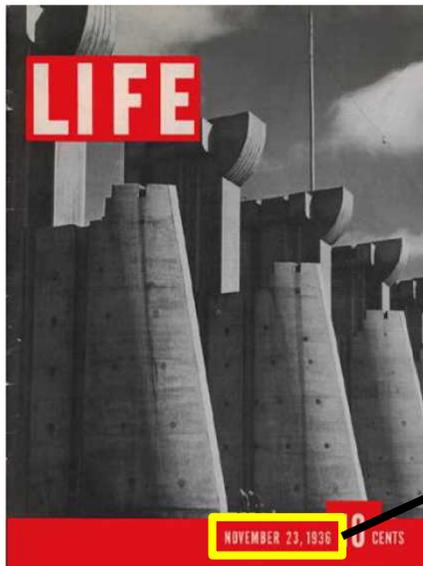
- We were able to :
 - OCR the dates
 - image clustering
 - object detection
- We were not able to:
 - make use of the textual elements



Extracting text from
the images

Extracting dates from images

- Missing dates
- Date position pattern

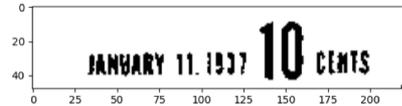
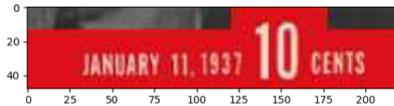
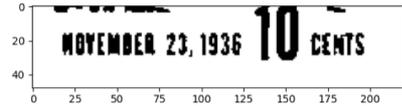
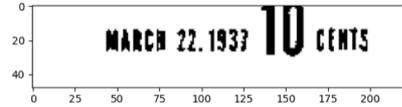
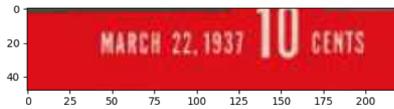


crop(x1, x2, y1, y2)



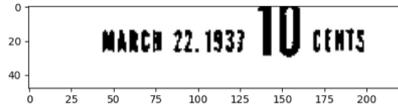
Extracting dates from images

Applying (Otsu) binarization

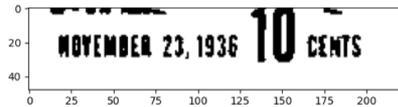


Extracting dates from images

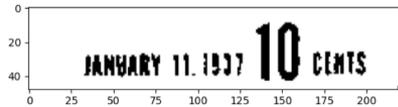
Extract text using Tesseract OCR



MARCH 22. 1937 W CEMTS



MOVEMBER 23, 1936 W EMTS



TARUARY 4.3937 EU CERTS

Extracting dates from images

- We have a closed vocabulary
 - month : 'JANUARY', 'FEBRUARY', ...
 - day: 1, 2, 3 ...
 - year: 1935 - 1965
- Use Levenshtein (word-edit) distance to match OCR with closest date :

OCR results	Matched tokens
TARUARY	JANUARY
4.3937	1937
EU	<i>None</i>
CERTS	<i>None</i>

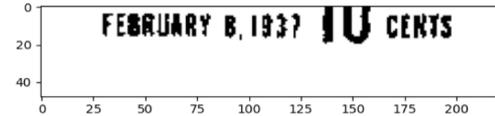
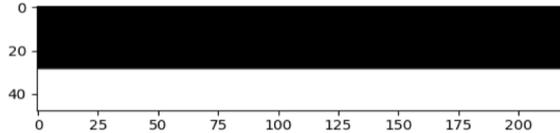


Extracting dates from images - Results

Success : month + year found

	Elle	Life
<i>Rate of success</i>	64.9%	67.7%

Fails



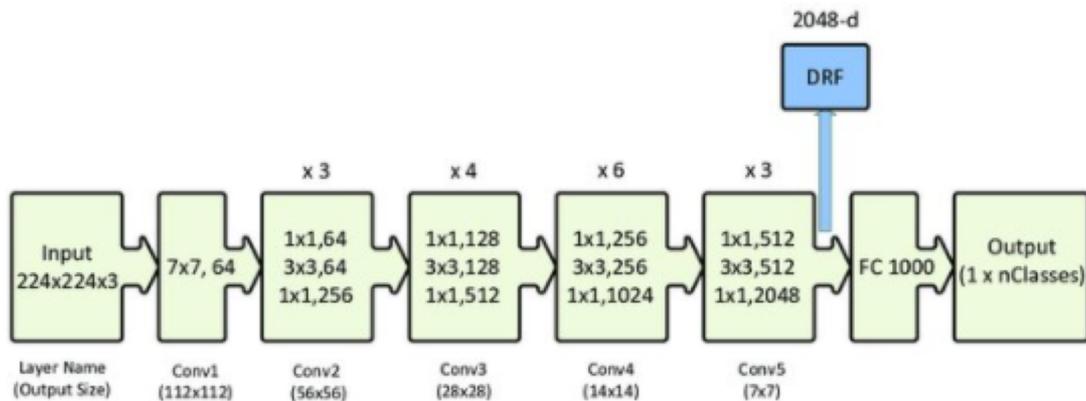
FEBRUARY B.133? GU CERIS B
133?



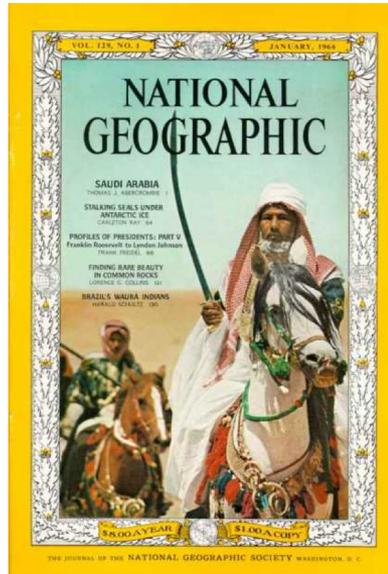
Extracting meaning from images

Clustering and nearest neighbours with resnet embeddings

- We used a pre-trained resnet50 over imagenet
- We embedded our images by extracting the last-but-one layer's values
- From that we tried to look at nearest neighbours and we tried clustering



Extracting meaningful content from the images



→ **year of publication:** 1966

Mask CNN



**Proportion
in cover :**
18%



MTCNN



Fair-Face



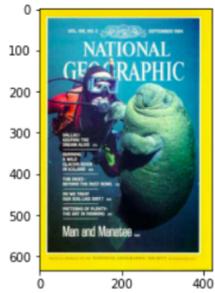
Ethnicity: middle-eastern
Gender : male
Age : 50 - 59



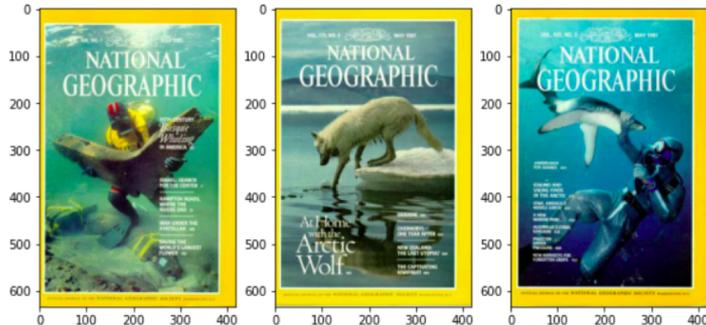
Results

Results

Visual strategies:



most similar:



most similar:

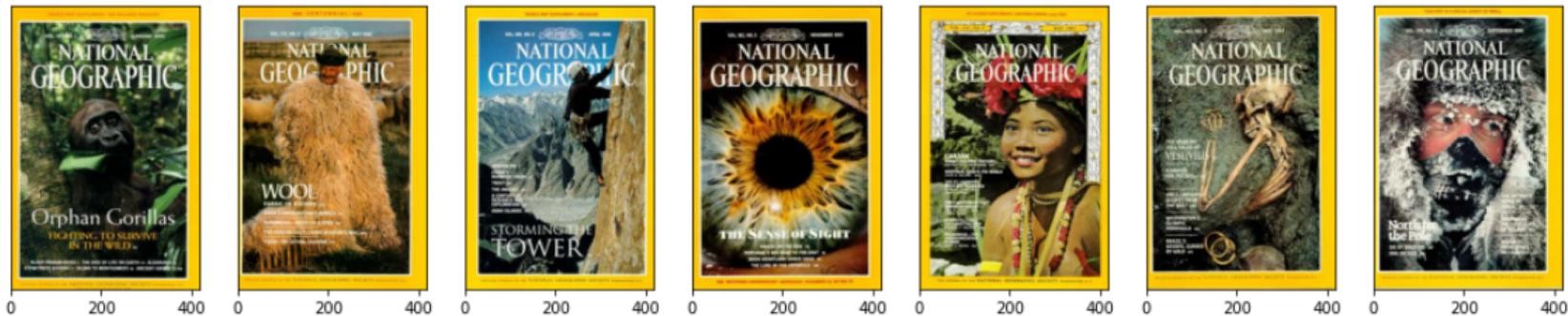


Results

Cluster 0, 8 images:

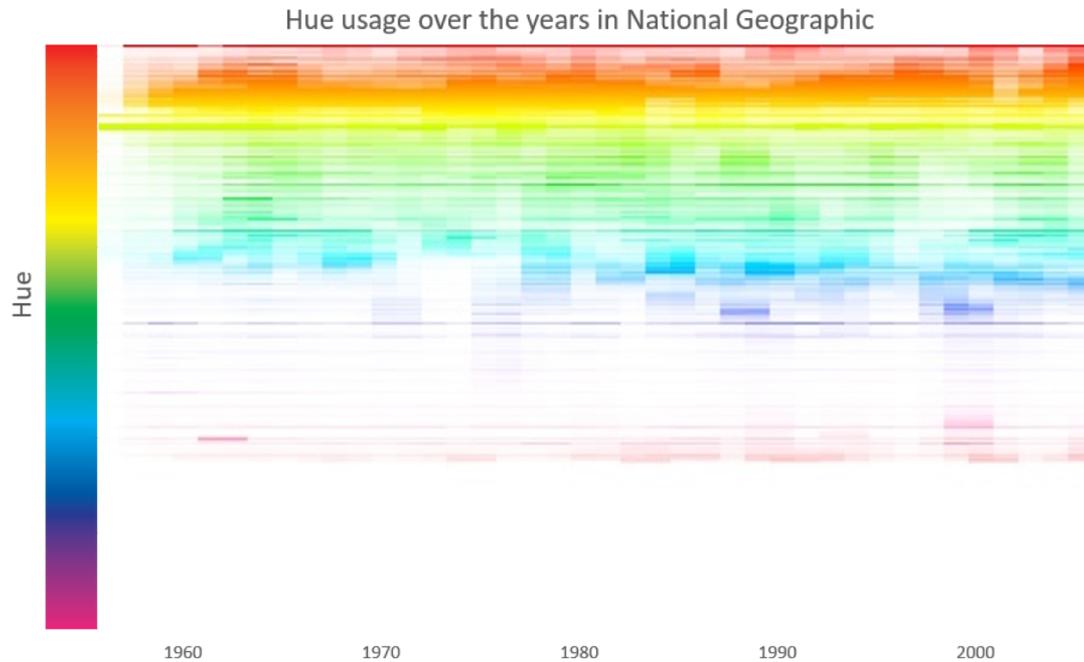


Cluster 1, 7 images:



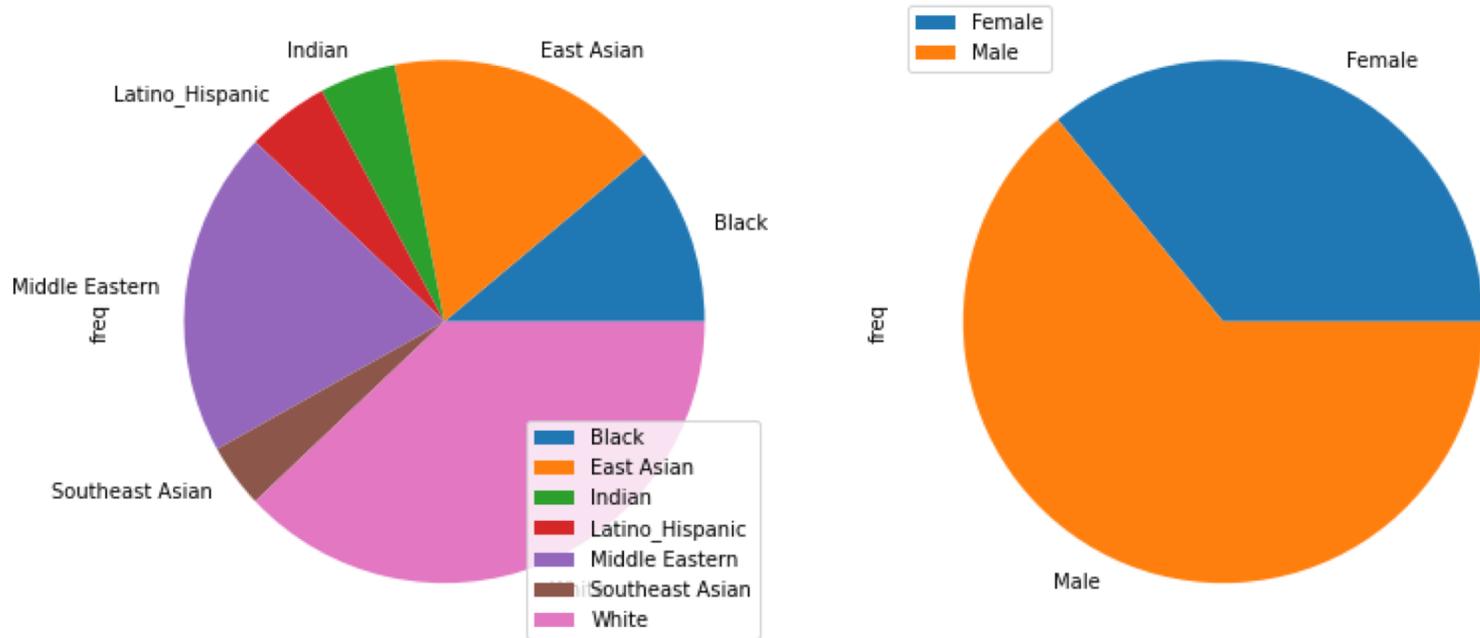
Results

Visual strategies:



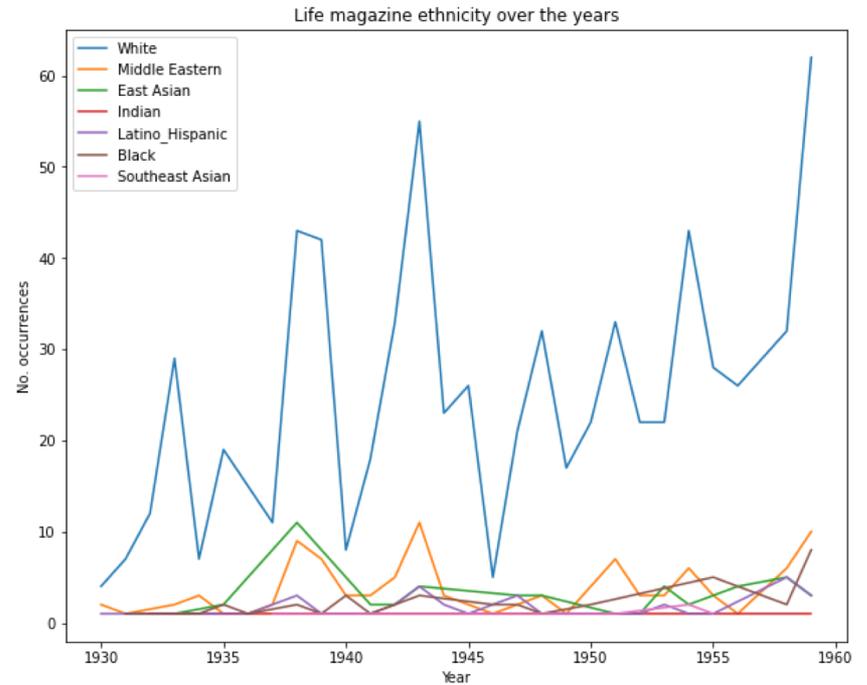
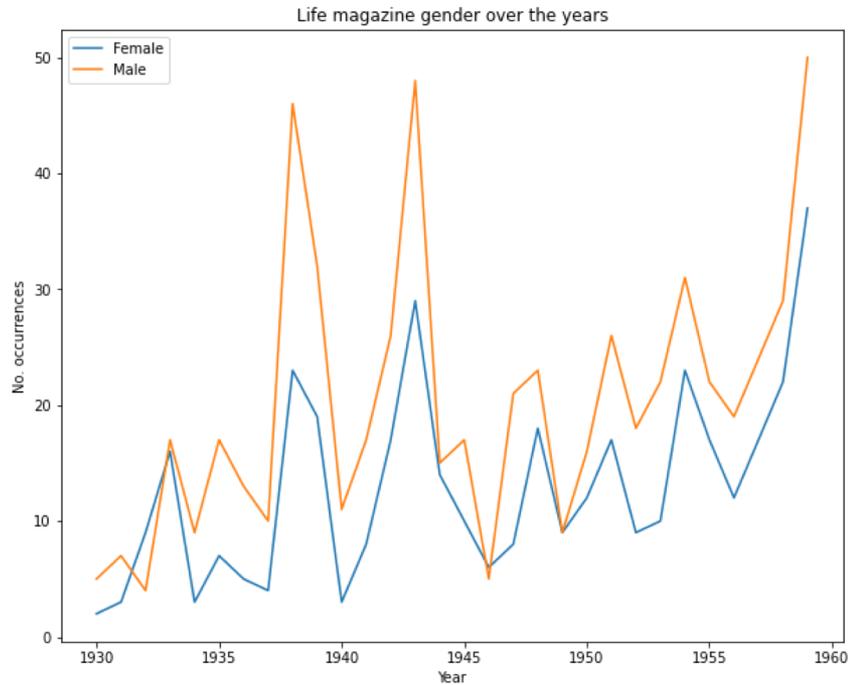
Results

Gender and ethnicity representations, **National Geographic**:



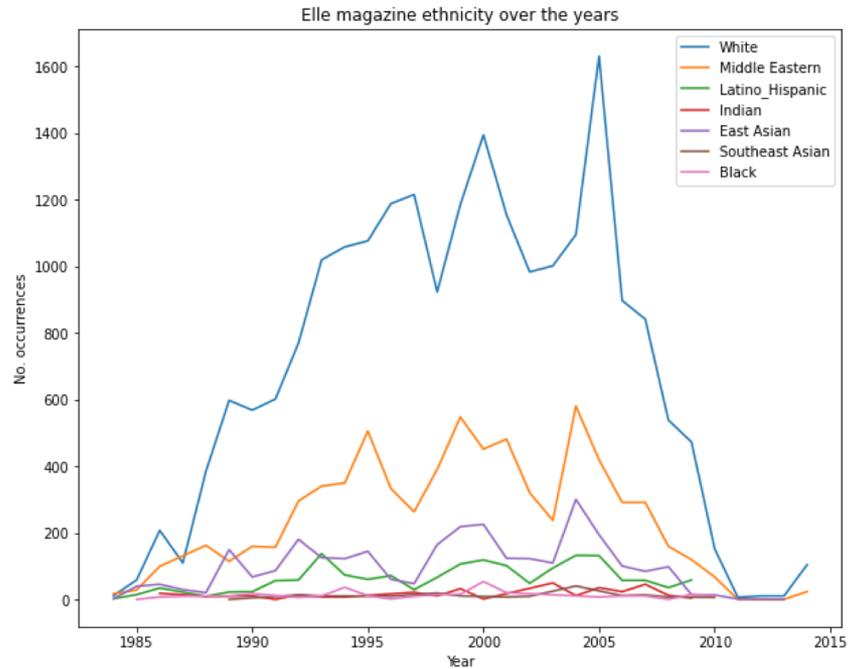
Results

Gender and ethnicity representations in **Life** magazine:



Results

Ethnicity representations in **Elle** magazine:





Conclusion

Conclusion

- There is many possibilities of researching visual, textual and cultural circulations in globalized and influential Western magazines of the 20th century
- Each of the magazines studied has their own visual strategy to appeal to a certain target audience
- These visual content can be analyzed with digital tools to group similar strategies. In the future, a further analysis of these visual clusters can offer valuable insights to the circulation of globalized narratives, their impacts and effects
- It is also possible to automatically detect persons depicted on the covers, as well as their age, gender and ethnicity. However, these algorithms do not yet have a high confidence score. Subsequent improvements can lead to a more detailed analysis.
- During the project, several digital tools were developed that can be used in future research

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