

User Privacy Behavior Change in Instagram

Romain Choukroun

Supervisor: Prof. Karl Aberer

Supervisor: Hamza Harkous

Outline

- Motivations
- Analyzing an input
- Demo
- Future work
- Conclusion

Getting lost on Youtube



33 mins of Epic Fail Compilation

Up next Autoplay ☐

1 Hour of Fail Compilation 2013 | LONGEST EVER
Cast Theatre
1,238,178 views

Mix - 33 mins of Epic Fail Compilation
YouTube

11:11 mins Of OMG Moments part 1 of 5 (HD)
StayWithJas
2,130,702 views

17:57 of Laugh WHY WE LOVE RUSSIA :D
StayWithJas
3,926,569 views

Crazy Funny People Compilation, Lol :) (Funny Videos)
StayWithJas
1,756,797 views

People With Balls, People Are Amazing (HD Video)
StayWithJas
1,813,750 views

The Ultimate Fail, Win and Funny pranks Mega Compilation part 106
FunnyMediaTV
33,097,428 views

La Belle Mixtapes
La Belle Musique

Ultimate WIN Compilation of 2015 ★ 8mins of WIN clips - February 2015
FailCity
91,636,412 views

- Each decision you make influences the next set of choices
- Does that apply to privacy ?

2 Steps

- Collecting instagram posts and analyze them



- Build a tool that understands the photo content

What do we see as humans



- From the picture: Computers, happy people, Hackathon banners, food.
- From the tags: Hackathon, development, Netherlands, coolblue (with an orange logo)

What computers see

What computers see... Obviously



01010100	01101000
01101001	01101110
01101011	00100000
01100100	01101001
01100110	01100110
01100101	01110010
01100101	01101110
01110100	00101110

Understanding vs Recognizing



- Understanding: probably the start of a hackathon organized by coolblue
- Recognizing: computers, human beings of variant ages, tables, chairs

Analysis

- OpenCV (Open-Source Computer Vision)
- Machine learning models
 - Caffe
 - OpenBiometrics
 - Haar Cascade files through OpenCV
- Javascript

Classifiers

- Scenes and Objects
- Age and Gender
- Face Detection
- Nudity Detection
- Emotions Detection

Scenes and Objects

- Caffe Model Zoo
 - AlexNet
 - Hybrid-CNN MIT
 - BVLC GoogleNet
- Google
 - TensorFlow

Model Name	Top-1 Accuracy	Top-5 Accuracy
AlexNet	0.567	0.7956
GoogleNet	0.687	0.8907
Hybrid-CNN	0.50	0.811545
TensorFlow	0.827545	0.965

Age and Gender

- Caffe Model Zoo
 - AgeGenderDeepLearning
- OpenBiometrics

Age and Gender

- Caffe Model Zoo
 - AgeGenderDeepLearning
- OpenBiometrics

	Age	Gender
AgeGenderDeepLearning	[80; 85]	F
OpenBiometrics	[78; 82]	F



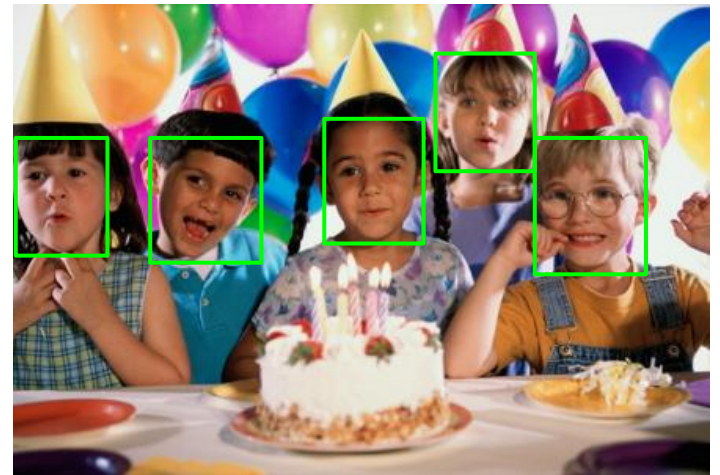
Face Detection

- OpenCV
 - Using Haar Cascades trained for Face Detection



Face Detection

- OpenCV
 - Using Haar Cascades trained for Face Detection

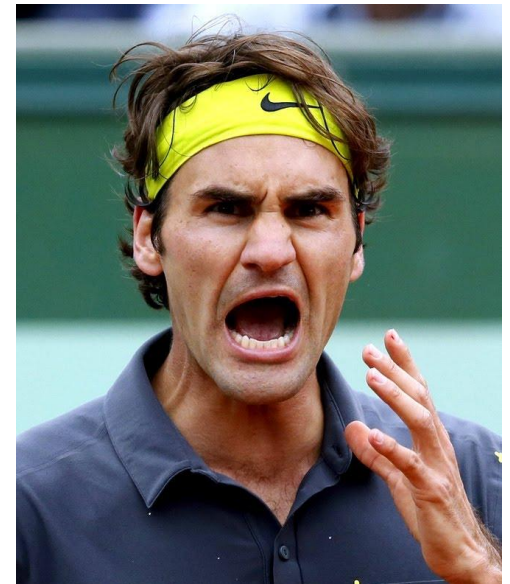


Nudity Detection

- Pija library
 - Uses OpenCV
 - Skin Pixel Detection

Nudity Detection

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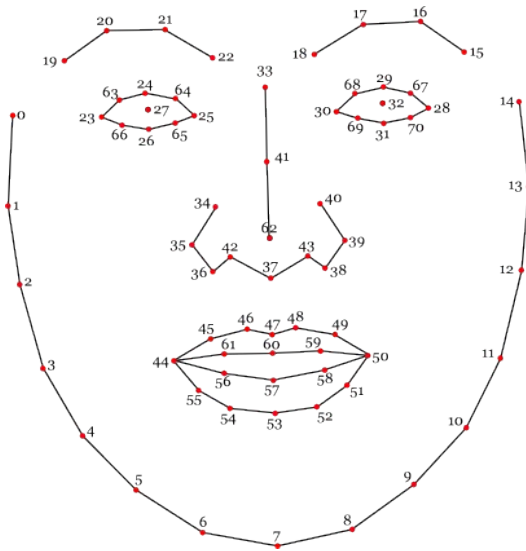
Nudity Detection

- Pija library
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 - Skin Pixel Detection



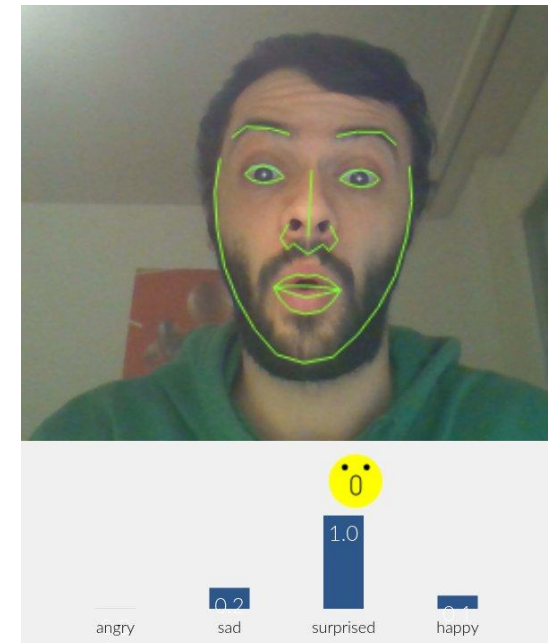
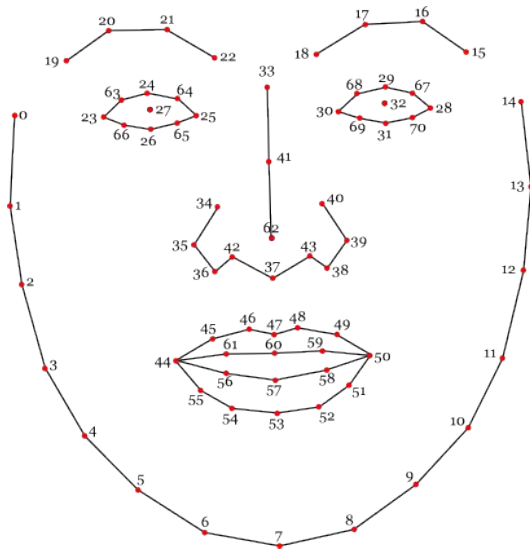
Emotions Detection

- Clmtrackr Javascript Library



Emotions Detection

- Clmtrackr Javascript Library



Challenges

- Setup (Thank you Hamza)
 - Guide for Ubuntu on Github
 - Docker ? Anyone ?
- Putting all the blocks together
 - 9 different models
 - 3 different frameworks
 - 4 different languages

Demo time !

Web Demo

LSIR Image Processing Toolbox

Classification

[Click for a Quick Example](#)



objects (google v3)

objects (google v1)

objects (alexnet)

objects (mit)

scenes (mit)

age/gender (cnn)

nudity

emotions

angry

0.012616351176

sad

0.0459109092422

surprised

0.335698139634

happy

0.780049065244

CNN took 36.2854590416 seconds.

Provide an image URL

Classify URL

Or upload an image:

Choose File

No file chosen

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<http://privyseal.epfl.ch:5000/> through EPFL VPN

What's next ?

- Start using the tool
- Find other classifiers
 - Activities in training on a cluster
 - Optical Character Recognition
- Performance issues
 - 1 second analysis
- Change models
 - Tensorflow



orchia_guan
微軟亞太研發大樓

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towardsfuture and hackarizona like this 2d

orchia_guan #hackathon#uberChina#microsoft

Waiting for the amazing code.
Hack your heart out.
总部的工程师都来惹



Add a comment...



github.com/LSIR/instagram-behavior

Conclusion

- Classification of Instagram pictures
 - Scenes and Objects
 - Age and Gender
 - Face Detection
 - Nudity Detection
 - Emotions Detection
- Had a blast
- Learnt a lot
- Thank you !