EURECOM
Sophia Antipolis

project proposal – FALL 2018

ENGINEERS 210 hours - 12 credits	MASTER 90 hours – 6 credits MASTER (1st semester) 80 hours - 5 credits	POSTMASTER 90 hours – 7 credits	MASTER EIT 100 hours – 6 credits
~~Smart Objects~~	~~Master IoT~~	~~Post Master ITS~~	Master EIT
~~Mobile communications~~	Master Data science and engineering	~~Post Master Security~~	
Data science and engineering	~~Master Digital Security~~		
~~Communication System Security~~	~~Master Mobile computing system~~		

Supervisor(s): Benoit Huet, Lucas Pascal

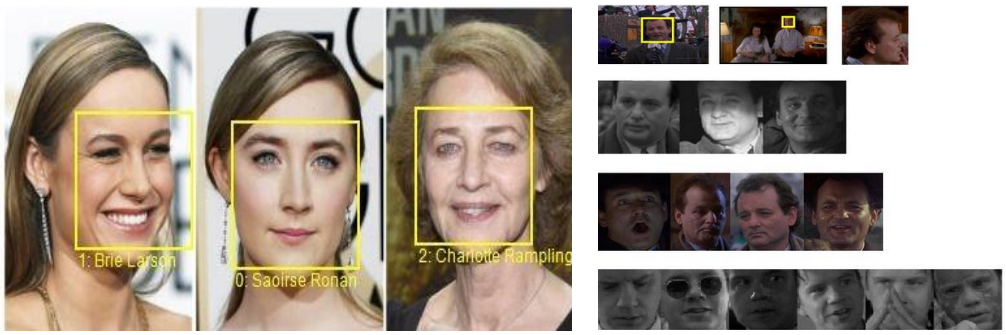
Industrial contact(s) / company: INA (Institut National de L'Audiovisuel) http://www.ina.fr/
ANTRACT (ANR Project)

Number of students max.: 2

Project Title: Deep Learning for Celebrity Spotting

Project Description:

Face recognition systems are finding increasingly use, in several areas including person identification, video-surveillance and celebrity spotting, etc. The use of deep learning-based approaches have been increasingly applied for face recognition with promising results. In this project, you will investigate the use of Deep Face features [1] to recognize human faces in video. You will particularly focus on celebrities and public figures [2][3], such as politicians, singers or actors.
The non-rigid structure of the human face and all different situations that a celebrity face can be found impact the performance of the face recognition system. Indeed, face recognition can be performed reliably when the actual celebrity face has been previously seen under similar situations. The aim of this project is to improve the accuracy of recognizing celebrity faces tacking into account the constraints cited above. Given a starting small set of labeled training data, you will build an automatic system that iteratively add accurate faces to the initial training data. This iterative faces selection process enriches the diversity of the labeled data and thus improves the classifier performance.



Working Framework: OpenCV, Dlib, TensorFlow, Caffe, Theano, Python/C,
References:
[1] Schroff, F., Kalenichenko, D., & Philbin, J. (2015). Facenet: A unified embedding for face recognition and clustering. In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (pp. 815-823).
[2] GUO, Yandong, ZHANG, Lei, HU, Yuxiao, et al. Ms-celeb-1m: challenge of recognizing one million celebrities in the real world. Electronic Imaging, 2016, vol. 2016, no 11, p. 1-6.
[3] http://www.iis.ee.ic.ac.uk/cxiong/database.html