

Name: Blessing Ajibero

Title: Understanding how facial recognition and facial detection works and creating a filter/lens.

Difficulty and Challenges

Utilizing the correct libraries for my desired results

Figuring out what machine learning algorithm to use for my HOG and SVM object detection models

Figuring out the mathematical formulas behind each ML algorithm and model

Narrowing down from full facial recognition to facial features (eyes, nose, mouth) recognition

Goal

My ultimate goal is to create a filter or lens as seen on social media applications such as snapchat to make art using python, openCV, numpy and other desired libraries.

References

Kazemi, Vahid & Sullivan, Josephine. (2014). One Millisecond Face Alignment with an Ensemble of Regression Trees.

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Yanwei Pang, Yuan Yuan, Xuelong Li, and Jing Pan. 2011. Efficient HOG human detection. *Signal Process.* 91, 4 (April 2011), 773–781.

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X. Xu, C. Quan and F. Ren, "Facial expression recognition based on Gabor Wavelet transform and Histogram of Oriented Gradients," *2015 IEEE International Conference on Mechatronics and Automation (ICMA)*, Beijing, 2015, pp. 2117-2122.