

# Computer Vision

*Staff management based on face recognition*

# Contents

- Introduction
- Description
- Development
- Future work
- References

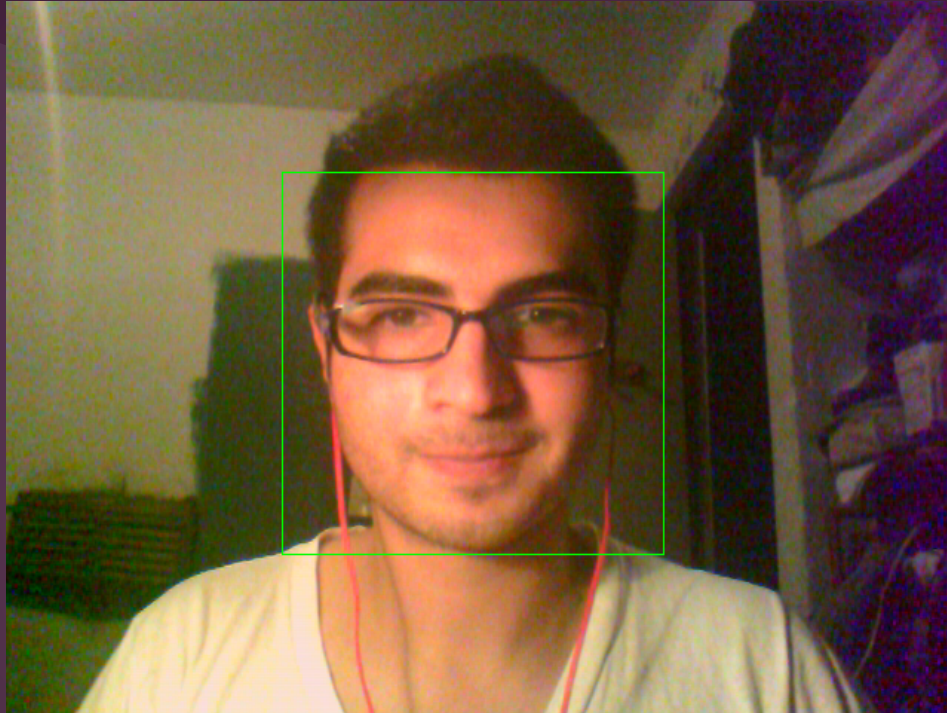
# *Introduction*

# Development

1. Face Detection
2. Face Preprocessing
3. Collect and learn faces
4. Face Recognition

# Face Detection

It is the process of locating a face region in an image (a large rectangle near the center of the following screenshot). This step does not care who the person is, just that it is a human face.



Instructions: Look to left

Name: Otni

Take photo

# Face Recognition

It is the process of adjusting the face image to look more clear and similar to other faces (a small grayscale face in the top-center of the following screenshot).

# Collect and learn faces

It is the process of saving many preprocessed faces (for each person that should be recognized), and then learning how to recognize them.



# Face Recognition

It is the process that checks which of the collected people are most similar to the face in the camera (a small rectangle on the top-right of the following screenshot).



Name: Otol, Charge: HR

Train

*Development*

# Future Work

1. Implement other factors that help to better identify the staff.
2. Export project to a web system.
3. Extend to support multiple cameras
4. Make reports according to the Charge and Attendance

# References

- [1] Baggio, D. (2012), *Mastering OpenCV with practical computer vision projects*. Birmingham, UK: Packt Pub
- [2] OpenCV Documentation: [docs.opencv.org](https://docs.opencv.org)