Tutorials: Introduction, Biometric Pipeline
Image Based Biometry

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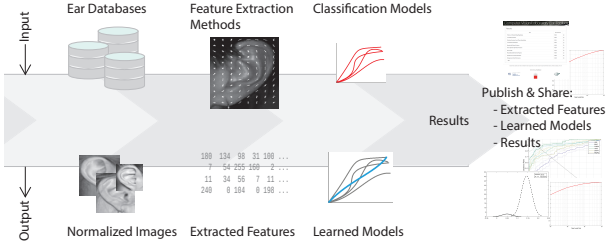
Agenda

- Introduction
- Prerequisites
- Tutorials
- Scientific Assignments
- Previous Achievements

Introduction

- Biometric recognition pipeline:
  - Why?
  - How?

Figure: Biometric recognition pipeline as illustrated by AWE Toolbox work flow diagram [1].



Prerequisites

We will be using:

- Matlab, AWE toolbox,
- OpenCV, OpenBR,
- other.

So you should already be familiar with:

- Matlab,
- C/Python,
- basics of computer vision principles.

Tutorials

Classroom work:

- $\frac{2}{3}$ tutorials:
  - $\frac{1}{2}$ presentations & discussion,
  - $\frac{1}{2}$ independent work,
- $\frac{1}{3}$ seminars.

Scientific Assignments

Work:

- 2 scientific assignments:
  - implementation,
  - written report,
- the final seminar: more in-depth research work.

Let us vote on the deadlines!

Please, be on time with your submissions.

What did previous years' students achieve?

- https://arxiv.org/pdf/1711.09952.pdf [2]
- https://arxiv.org/pdf/1708.06997.pdf [3]
- https://bit.ly/2CAH2eW [4]
- https://www.youtube.com/watch?v=4GmSdNFZ4AM
- https://www.youtube.com/watch?v=0-C0EATdLYI

Z. Emersic, V. Struc, and P. Peer, "Ear Recognition: More Than a Survey," *Neurocomputing*, 2016.

[U+FFFD] Emeršič, D. Štepec, V. Štruc, and P. Peer, "Training convolutional neural networks with limited training data for ear recognition in the wild," in *2017 12th IEEE International Conference on Automatic Face Gesture Recognition (FG 2017)*, May 2017, pp. 987–994.

[U+FFFD] Emeršič, D. Štepec, V. Štruc, P. Peer, A. George, A. Ahmad, E. Omar, T. E. Boult, R. Safdaii, Y. Zhou, S. Zafeiriou, D. Yaman, F. I. Eyiokur, and H. K. Ekenel, "The unconstrained ear recognition challenge," in *2017 IEEE International Joint Conference on Biometrics (IJCB)*, Oct 2017, pp. 715–724.

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