Iniziato	martedì, 26 aprile 2022, 12:00
Stato	Completato
Terminato	martedì, 26 aprile 2022, 12:36
Tempo impiegato	35 min. 36 secondi
Punteggio	2,33/9,00
Valutazione	**2,59** su un massimo di 10,00 (**26**%)

Domanda 1

Risposta errata

Punteggio ottenuto -0,11 su 1,00

Considering Hough transform applied to fingerprint alignment, select the true statement among the following ones:

Scegli un'alternativa:

- Each parameter configuration can be associated to a cell in a 3D accumulator.
- It is possible to select more than one transformation looking for the local maxima in a 2D accumulator.
- Complexity logarithmically increases with the number of parameters.
- It requires removing outliers first.

Risposta errata.

La risposta corretta è: Each parameter configuration can be associated to a cell in a 3D accumulator.

Domanda 2

Risposta errata

Punteggio ottenuto -0,11 su 1,00

Considering Hough transform to fit one line to a set of points, select the **true** statement among the following ones:

Scegli un'alternativa:

- Complexity does not depend on parameter quantization.
- Parametrization $x\cos\theta + y\sin\theta = \rho$ defines a line.
- Hough transform allows to identify only a single fitting line.
- Each line is a point in a 3D parameter space.

Risposta errata.

Le risposte corrette sono: Parametrization $x\cos\theta + y\sin\theta = \rho$ defines a line.
, Complexity does not depend on parameter quantization.

Domanda 3

Risposta errata

Punteggio ottenuto -0,11 su 1,00

Select the **wrong** statement concerning the M82 algorithm:

Scegli un'alternativa:

- Small deformations can be compensated by a tensor transformation.
- At the end of the algorithm, Top 2 matching pairs are selected.
- A weight is assigned to each matching pair.
- A coarse pre-alignment is performed using the core point and two side-regions.

Risposta errata.

La risposta corretta è: At the end of the algorithm, Top 2 matching pairs are selected.

Domanda 4

Risposta corretta

Punteggio ottenuto 1,00 su 1,00

Given the Pointcaré index equation

$$PI = \frac{1}{\pi} \sum_{i=0}^{7} \delta \left(O \left[(i+1)_{mod\ 8} \right] - O \left[i \right] \right)$$

select the **correct** statement among the following:

Scegli un'alternativa:

- The function δ outputs values from 0 to π.
- Computes a cumulative change for the orientation field. ✔
- PI=0 corresponds to a loop point.
- PI=2 correspond to a delta point.

Risposta corretta.

La risposta corretta è: Computes a cumulative change for the orientation field.

Domanda 5

Risposta errata

Punteggio ottenuto -0,11 su 1,00

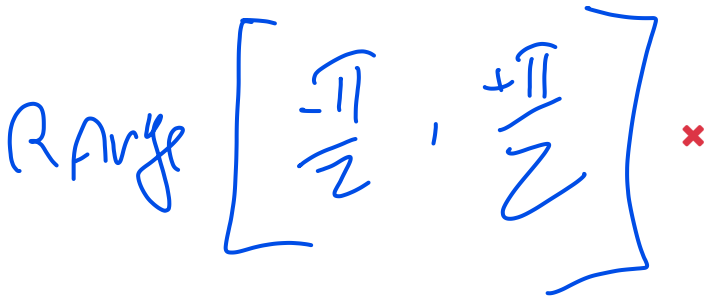
Given the Pointcaré index equation

$PI = \frac{1}{\pi} \sum_{i=0}^{7} \delta\left(O\left[(i+1)_{mod\ 8}\right] - O\left[i\right]\right)$

select the **correct** statement among the following:

Scegli un'alternativa:

- The function δ outputs values from 0 to π.
- PI for delta is a combination of two PI loops.
- PI=2 corresponds to a loop point.
- The function δ outputs values from $-\pi/2$ to $\pi/2$.



Risposta errata.

La risposta corretta è: The function δ outputs values from $-\pi/2$ to $\pi/2$.

Domanda 6

Risposta corretta

Punteggio ottenuto 1,00 su 1,00

Considering the fingerprint ridge extraction operation, select the **wrong** statement among the following:

Scegli un'alternativa:

- Gabor filtering enhances ridge quality (visibility).
- Simple thresholding does not work since moist skin makes ridges appear joined.
- Ridges can be broken due to cuts or creases.
- After thresholding, ridges have a width of one pixel.

Risposta corretta.

La risposta corretta è: After thresholding, ridges have a width of one pixel.

Domanda 7

Risposta corretta

Punteggio ottenuto 1,00 su 1,00

In a ridge-based relative orientation, we can **positively** state that

Scegli un'alternativa:

- Ridges are normalized. ✔
- Matching implies finding the correct triplet $(\Delta x, \Delta y, \theta, s)$.
- Every point on the ridge can be associated to a different triplet of parameters $(\Delta x, \Delta y, \theta)$.
- Each ridge is a curve with its origin in the core point.

Risposta corretta.

La risposta corretta è: Ridges are normalized.

pag 22 (milchi P1)

Domanda 8

Risposta errata

Punteggio ottenuto -0,11 su 1,00

Which of the following types of minutiae are considered by the ANSI/NIST-ITL 1, 2007 standard.

Scegli un'alternativa:

- Ending, bifurcation, trifurcation or crossover, undefined.
- Ending, bifurcation, lake, undefined. ✖
- Ending, bifurcation, compound, island.
- Ending, trifurcation, compound, undefined.
- Ending, bifurcation, spur, undefined.

Risposta errata.

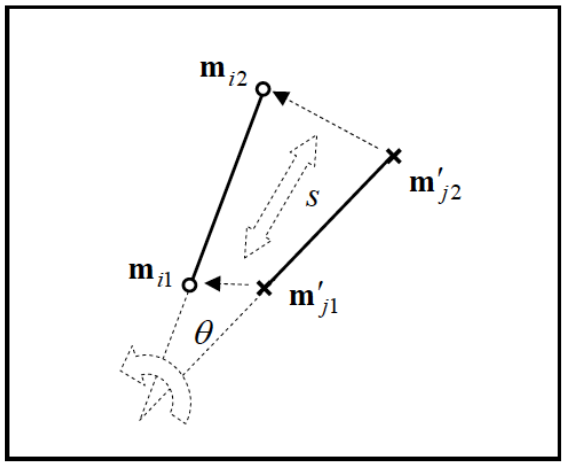
La risposta corretta è: Ending, bifurcation, trifurcation or crossover, undefined.

Domanda 9

Risposta errata

Punteggio ottenuto -0,11 su 1,00

Considering the scaling factor computation in a refinement of fingerprint alignment (described by the parameter s in the following image)



Select the **wrong** statement among the following ones.

Scegli un'alternativa:

- Minutiae $\mathbf{m}_{i1}, \mathbf{m}_{i2}$ belong to the same fingerprint.
- The parameter s corresponds to the ratio between the length of $\mathbf{m}_{i1}, \mathbf{m}_{i2}$ and the length $\mathbf{m}_{j1}, \mathbf{m}_{j2}$.
- Parameter s is computed before computing maximum Matching Pair Support.

Risposta errata.

La risposta corretta è: Parameter s is computed before computing maximum Matching Pair Support.

◄ Lecture 15 - Iris recognition

Vai a...

Quiz-Face recognition ►

DOCUMENTAZIONE

Moodle

Kaltura