Lokalizacija karakterističnih točaka lica u videu

Raspoznavanje uzoraka 2016/2017

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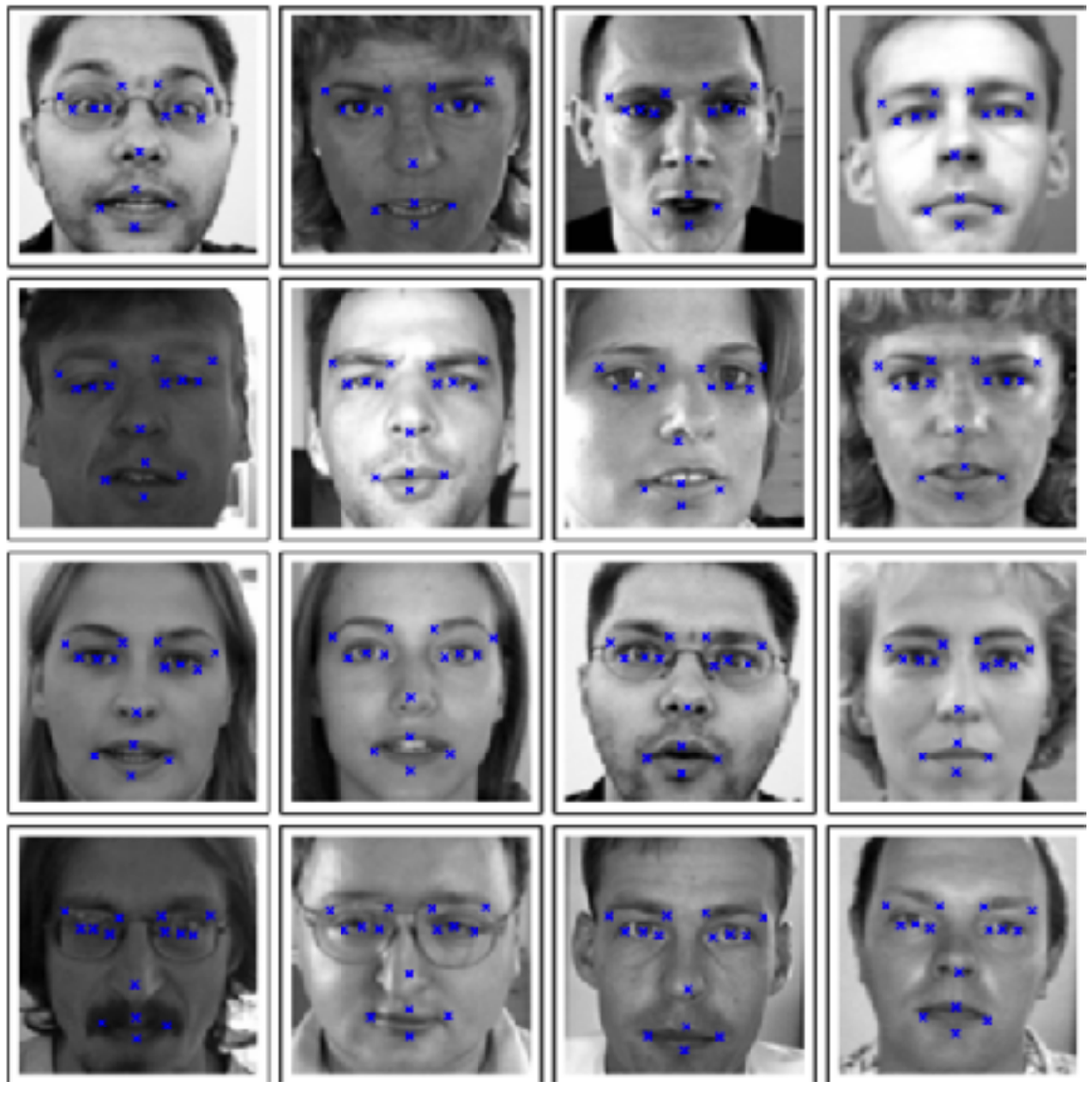
Zadatak

- Detekcija karakterističnih točaka lica na temelju dubokog učenja u video scenama
- Problem djelomične prekrivenosti lica u pojedinim slikovnim okvirima

Skup podataka

- Preuzet s Kaggle-a
- 15 karakterističnih točaka
- 7049 označenih slika



Korišteni alati

- Python
- Open CV - prepoznavanje lica
- Theano/Lasagne - Konvolucijska neuronska mreža
- Microsoft Azure

Primjeri (slike)

Primjeri (video)

Primjeri (video)

Primjeri (video)

Demonstracija

Kaggle

#	Δ1w	Team Name *in the money	Score	Entries	Last Submission UTC (Best – Last Submission)
1	—	Trump *	1.53319	1	Sat, 26 Nov 2016 01:14:06
2	—	olegra	1.55021	4	Sat, 19 Nov 2016 19:00:01 (-7.8d)
3	new	enes	1.64097	1	Wed, 04 Jan 2017 19:00:46
4	↓1	helgi	1.73782	24	Fri, 06 Jan 2017 23:53:44 (-0.4h)
5	new	Alastair Breeze	1.85774	1	Fri, 06 Jan 2017 18:58:07
6	↓2	ddwe	1.88313	18	Thu, 15 Dec 2016 03:12:54 (-19h)
7	↓2	Koguma	1.89204	5	Tue, 06 Dec 2016 22:48:50 (-0h)
8	new	bigxin	1.95750	2	Mon, 02 Jan 2017 03:30:12
9	↓3	ademenet	1.97116	8	Thu, 22 Dec 2016 10:57:04 (-26.8d)
10	↑28	CCRS	2.03259	12	Fri, 06 Jan 2017 23:54:06 (-4.3d)
11	↑10	navidbehazin	2.04092	42	Fri, 06 Jan 2017 20:13:36 (-23.4h)
12	new	RASPUZ	2.08423	5	Fri, 06 Jan 2017 22:10:27 (-8.5h)
13	↓6	PoojaLalan	2.10010	4	Mon, 05 Dec 2016 21:18:36 (-11.9d)
14	↓6	Daisuke Hashimoto	2.10825	3	Sun, 11 Dec 2016 15:57:12

Literatura

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- Yu, Xiang, et al. "Face Landmark Fitting via Optimized Part Mixtures and Cascaded Deformable Model." (2015).

- Zhu, Xiangxin, and Deva Ramanan. "Face detection, pose estimation, and landmark localization in the wild." Computer Vision and Pattern Recognition (CVPR), 2012 IEEE Conference on. IEEE, 2012.

- http://danielnouri.org/notes/2014/12/17/using-convolutional-neural-nets-to-detect-facial-keypoints-tutorial/ , Pristupano 2.1.2017.

Hvala na pažnji