Raport z postępów projektu
Digit recognizer

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Od ostatniego punktu kontrolnego udało nam się:

- ustalić modele sieci konwolucyjnych, które będą brane pod uwagę w raporcie końcowym przy porównywaniu wyników;
- zaimplementować metodę SVM.

Poniżej przedstawiamy wstępnie uzyskane przez nas wyniki:

- Metoda CNN
  Obliczenia zostały przeprowadzone dla modeli sieci znajdujących się w załączonym pliku *NetworkModels.py*. Zostały one odpowiednio sparametryzowane. Każdy wariant sieci był uczony przez jedną iterację (każdym obrazem ze zbioru uczącego dokładnie raz). Tabela poniżej przedstawia rezultaty oraz czas (w sekundach), przez jaki trwały obliczenia.
  Oznaczenia:
  m-model;
  k-kernel;
  p-pool;
  d-dropout.

	ACCURACY	LOSS	MODEL	TIME	VAL_ACC	VAL_LOSS
0	[0.9258833333015442]	[0.2419550352136294]	model1, k: (2,2), p: (2, 2), d: 0.1	192.12085008621216	[0.9746]	[0.07744126126
1	[0.9283166666984558]	[0.2337361595372359]	m1, k: (2,2), p: (2, 2), d: 0.2	193.24924659729004	[0.9802]	[0.06077338801
2	[0.9240166666984558]	[0.24867945099075636]	m1, k: (2,2), p: (2, 2), d: 0.3	194.0993914604187	[0.977]	[0.07285374941
3	[0.9220333333651225]	[0.25193157212932904]	m1, k: (2,2), p: (2, 2), d: 0.4	191.6640386581421	[0.9777]	[0.07435425218
4	[0.9247]	[0.24591454521814982]	m1, k: (2,2), p: (2, 2), d: 0.5	199.50263714790344	[0.9758]	[0.07665438005
5	[0.9434000000317891]	[0.18298239670693875]	m1, k: (7,7), p: (2, 2), d: 0.1	351.700865983963	[0.976]	[0.06769504258
6	[0.9410666666348775]	[0.18731714405417443]	m1, k: (7,7), p: (2, 2), d: 0.2	333.7001028060913	[0.9794]	[0.06014469459
7	[0.9366333333333333]	[0.2064599924047788]	m1, k: (7,7), p: (2, 2), d: 0.3	310.60807037353516	[0.9827]	[0.05211424103
8	[0.9381833333015442]	[0.19779315280914306]	m1, k: (7,7), p: (2, 2), d: 0.4	293.8299994468689	[0.9844]	[0.04634120020
9	[0.9301166666666667]	[0.22584140187501908]	m1, k: (7,7), p: (2, 2), d: 0.5	293.3596901893616	[0.9731]	[0.08070229730
10	[0.6694166666348775]	[0.9879058744430542]	m1, k: (12,12), p: (2, 2), d: 0.1	188.4207100868225	[0.862]	[0.44213487052
11	[0.6225666666348775]	[1.125994278939565]	m1, k: (12,12), p: (2, 2), d: 0.2	183.55514192581177	[0.7902]	[0.63018237872
12	[0.5784166666666667]	[1.2652527097066244]	m1, k: (12,12), p: (2, 2), d: 0.3	182.80659866333008	[0.6809]	[0.98107907714

13	[0.11655000000397364]	[2.301372591908773]	m1, k: (12,12), p: (2, 2), d: 0.4	180.64974188804626	[0.1135]	[2.30129451713
14	[0.32681666666666664]	[1.8529357978185017]	m1, k: (12,12), p: (2, 2), d: 0.5	183.14613842964172	[0.5074]	[1.48486221446
15	[0.8980500000317891]	[0.3422334395011266]	m2, k: (2,2), p: (2, 2)	70.62892079353333	[0.9603]	[0.14006354368
16	[0.9402166666984558]	[0.19891578945716223]	m2, k: (7,7), p: (2, 2)	62.401798248291016	[0.9772]	[0.07330474932
17	[0.9317500000317891]	[0.22118996316790582]	m2, k: (12,12), p: (2, 2)	51.19911193847656	[0.9776]	[0.06865470027
18	[0.9195000000317891]	[0.2654389654437701]	m2, k: (17,17), p: (2, 2)	39.72964692115784	[0.9666]	[0.10250331590
19	[0.9153499999682109]	[0.2909650502363841]	m3, k: (2,2)	221.24755907058716	[0.9628]	[0.12301035989
20	[0.9411999999682109]	[0.1924640418688456]	m3, k: (7,7)	156.3766644001007	[0.9792]	[0.06636061710
21	[0.9409833333333333]	[0.19925558050175507]	m3, k: (12,12)	116.23541307449341	[0.9781]	[0.07042707780
22	[0.92935]	[0.22928646569649377]	m3, k: (17,17)	76.50468945503235	[0.9689]	[0.09608234402
23	[0.9241166666348776]	[0.25780194922685623]	m4, k1: (2,2), k2:(2, 2)	147.91311025619507	[0.9718]	[0.09716129463
24	[0.95]	[0.17012586853901546]	m4, k1: (2,2), k2:(7, 7)	831.366845369339	[0.9809]	[0.05837214576
25	[0.9455666666348775]	[0.1778390663653612]	m4, k1: (2,2), k2:(12, 12)	947.0625576972961	[0.9812]	[0.05875631914
26	[0.9332833333333334]	[0.21617869889736174]	m4, k1: (2,2), k2:(17, 17)	999.4644794464111	[0.9765]	[0.07431546127
27	[0.9461666666666667]	[0.18073468161622683]	m4, k1: (7,7), k2:(2, 2)	130.04126405715942	[0.9727]	[0.08472202308
28	[0.9478666666348775]	[0.1755321985155344]	m4, k1: (7,7), k2:(7, 7)	345.2796506881714	[0.9817]	[0.05681787213
29	[0.9122833333651225]	[0.287589048119386]	m4, k1: (7,7), k2:(12, 12)	496.6273765563965	[0.9515]	[0.14662040708
30	[0.8320499999682108]	[0.5696127211888631]	m4, k1: (7,7), k2:(17, 17)	402.8572475910187	[0.9214]	[0.29433609802
31	[0.94185]	[0.18990177346765996]	m4, k1: (12,12), k2:(2, 2)	95.32921123504639	[0.9815]	[0.05636122696
32	[0.8914166666666666]	[0.3698987820784251]	m4, k1: (12,12), k2:(7, 7)	182.30417728424072	[0.9367]	[0.22210068472
33	[0.79005]	[0.6769600798765818]	m4, k1: (12,12), k2:(12, 12)	228.11729216575623	[0.8703]	[0.41977071428
34	[0.10950000000397364]	[2.3370184874216715]	m4, k1: (12,12), k2:(17, 17)	111.10067939758301	[0.1135]	[2.30122841720
35	[0.9215166666348775]	[0.25495086659590405]	m4, k1: (17,17), k2:(2, 2)	87.86022973060608	[0.9701]	[0.09952779012
36	[0.9186999999682108]	[0.25663968537052473]	m4, k1: (17,17), k2:(7, 7)	85.05405712127686	[0.9722]	[0.08807977335
37	[0.11153333333730697]	[2.3060155696868896]	m4, k1: (17,17), k2:(12, 12)	75.79316353797913	[0.1135]	[2.30119738845

- Metoda SVM
  Obliczenia zostały przeprowadzone dla różnych parametrów C i G.

Oprócz dokładności klasyfikacji podany jest też czas (w sekundach), przez jaki trwały obliczenia.

	VAL_ACCURACY	C	G	TIME
0	0.8144	0.2	0.001	11.51756739616394
1	0.8773	0.2	0.004	7.477960109710693
2	0.8947	0.2	0.007	6.977910995483398
3	0.903	0.2	0.01	7.194631814956665
4	0.9052	0.2	0.014	7.945363283157349
5	0.8528	0.4	0.001	8.52756142616272
6	0.9017	0.4	0.004	5.63733983039856
7	0.9135	0.4	0.007	5.315030574798584
8	0.9223	0.4	0.01	5.678451299667358
9	0.9271	0.4	0.014	6.516554117202759
10	0.8689	0.6	0.001	7.030480146408081
11	0.9103	0.6	0.004	4.808864116668701
12	0.9211	0.6	0.007	4.753647327423096
13	0.9275	0.6	0.01	5.161912202835083
14	0.9328	0.6	0.014	6.091821670532227
15	0.878	0.8	0.001	6.216352701187134
16	0.9135	0.8	0.004	4.312225580215454
17	0.925	0.8	0.007	4.396961688995361
18	0.9304	0.8	0.01	4.896858215332031
19	0.9353	0.8	0.014	5.902392387390137
20	0.8833	1.0	0.001	5.682172536849976
21	0.9174	1.0	0.004	4.036596298217773
22	0.9262	1.0	0.007	4.177034854888916
23	0.9324	1.0	0.01	4.765060901641846
24	0.9356	1.0	0.014	5.863624811172485
25	0.8892	1.2	0.001	5.240586519241333
26	0.9191	1.2	0.004	3.8259365558624268
27	0.9271	1.2	0.007	4.042573928833008
28	0.9337	1.2	0.01	4.7119410037994385
29	0.9365	1.2	0.014	5.826249361038208