

ONLINE MASTERS IN DATA SCIENCE

DSC 255 - MACHINE LEARNING FUNDAMENTALS

THE MACHINE LEARNING APPROACH

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The problem we'll solve today

Given an image of a handwritten digit, say which digit it is.

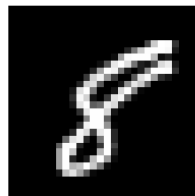
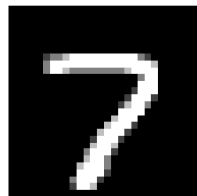
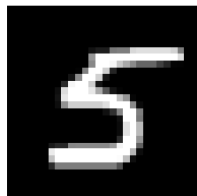
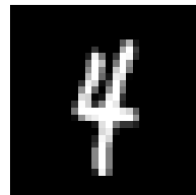
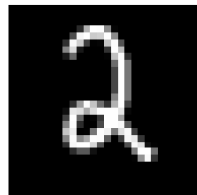
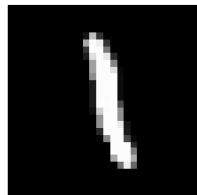
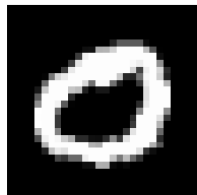


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Given an image of a handwritten digit, say which digit it is.



More examples



The machine learning approach

Instead of precisely defining the classification problem, specify it through examples:



1	4	1	0	1	1	9	1	5	4	8	5	7	2	6	8	0	3	2	2	6	4	1	4	1
8	6	6	3	5	9	7	2	0	2	9	9	2	9	9	7	2	2	5	1	0	0	4	6	7
0	1	3	0	8	4	1	1	1	5	9	1	0	1	0	6	1	5	4	0	6	1	0	3	6
3	1	1	0	6	4	1	1	1	0	3	0	4	7	5	2	6	2	0	0	9	9	7	9	9
6	6	8	9	1	2	0	8	6	7	2	8	5	5	7	1	3	1	4	2	7	9	5	5	4
6	0	2	0	1	8	7	5	0	1	2	7	1	1	2	9	9	3	0	8	9	9	7	0	9
8	4	0	1	0	9	7	0	7	5	9	7	3	3	1	9	7	2	0	1	5	5	1	9	0
5	5	1	0	7	5	5	1	2	5	5	1	8	2	8	1	4	3	5	8	0	9	0	9	
4	3	1	7	8	7	5	2	1	6	5	5	4	6	0	5	5	4	6	0	3	5	4	6	0
5	5	1	8	2	5	5	1	0	8	5	0	3	0	4	7	5	2	0	4	3	9	4	0	1

And let the machine figure out the underlying patterns!