

<u>Unit 2 Nonlinear Classification</u>, <u>Linear regression, Collaborative</u>

Course > Filtering (2 weeks)

5. Temperature

> Project 2: Digit recognition (Part 1) >

Audit Access Expires May 11, 2020

You lose all access to this course, including your progress, on May 11, 2020. Upgrade by Apr 1, 2020 to get unlimited access to the course as long as it exists on the site. **Upgrade now**

5. Temperature

We will now explore the effects of the temperature parameter in our algorithm.

You will be working in the files part1/main.py and part1/softmax.py in this problem

Effects of Adjusting Temperature

0.0/1.0 point (graded)

Explain how the temperature parameter affects the probability of a sample $x^(i)$ being assigned a label that has a large θ . What about a small θ ?

	.arger	temperatur	e leads t	o less	variance
--	--------	------------	-----------	--------	----------

Smaller temperature leads to less variance 🗸

Smaller temperature makes the distribution more uniform



Solution:

Smaller temperature parameter means that there is less variance in our distribution, and larger temperature, more variance. In other words smaller temperature parameter favors larger thetas, and larger temperature parameter makes the distribution more uniform.

Submit

You have used 3 of 3 attempts

1 Answers are displayed within the problem

Reporting Error Rates

2.0/2.0 points (graded)

Set the temperature parameter to be 0.5, 1, and 2; re-run run_softmax_on_MNIST for each one of these (add your code to the specified part in **main.py**).

✓ Answer: 0.084

✓ Answer: 0.1005

$$\mathrm{Error}|_{T=2} = \boxed{0.1261}$$

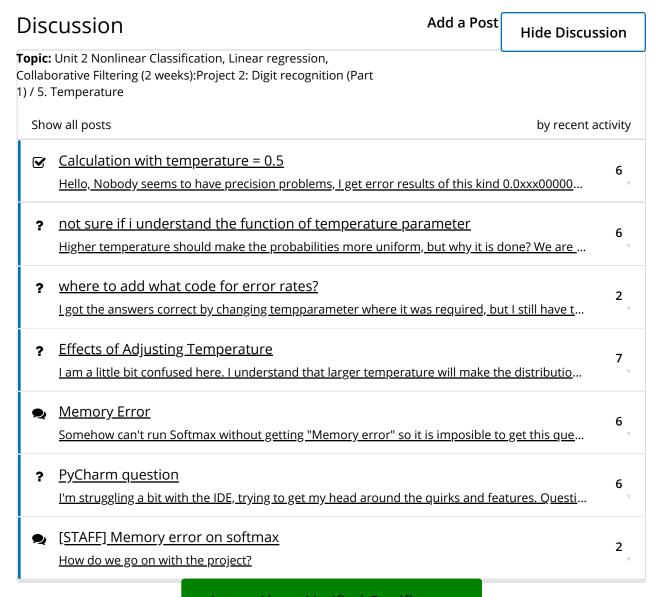
✓ Answer: 0.1261

Submit

You have used 1 of 20 attempts

1 Answers are displayed within the problem

Return the temp_parameter to be 1 before moving on to the next section.



Learn About Verified Certificates

© All Rights Reserved