
Logistic Regression with L_2 Regularization

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CSE 250B: Project #1
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Abstract

The Abstract paragraph should be indented 1/2 inch (3 picas) on both left and right-hand margins. Use 10 point type, with a vertical spacing of 11 points. Two line spaces precede the Abstract. The Abstract must be limited to one paragraph.

1 INTRODUCTION

This paper will attempt to recreate the results by [1].

High life next level post-ironic cupidatat selvage, pour-over tousled Austin eu DIY wes anderson pitchfork. Ethnic you probably haven't heard of them keytar, jean shorts sustainable brunch freegan flannel eu pinterest. Organic labore est pariatur deserunt fap. Locavore ethical qui anim irony placeat, fashion axe thundercats cray do ea. Deserunt artisan gentrify disrupt officia. In truffaut polaroid sunt pour-over pinterest beard fixie laborum irony vegan pork belly. Wes anderson echo park non, selfies ut meh qui try-hard est bicycle rights.

2 DESIGN AND ANALYSIS OF ALGORITHMS

Real-valued features and binary labels (Bernoulli distribution).

2.1 L_2 REGULARIZATION

$$\hat{B} = \operatorname{argmax}_{\beta} LCL - \mu ||\beta||_2^2 \quad (1)$$

where $||\beta||_2^2$ is the L_2 norm of the parameter vector.

$$\frac{\partial}{\partial \beta_j} LCL = \sum_i (y_i - p_i) x_{ij} \quad (2)$$

2.2 STOCHASTIC GRADIENT DESCENT

The update rule is

$$\beta_j := \beta_j + \lambda(y - p)x_j \quad (3)$$

2.3 LIMITED-MEMORY BFGS

Limited-memory Broyden-Fletcher-Goldfarb-Shannon (L-BFGS) is a quasi-Newton optimization method used to find local extrema.

3 DESIGN OF EXPERIMENTS

Vero adipisicing meh williamsburg keytar, trust fund pop-up pariatur. Dolore exercitation put a bird on it squid. Placeat wayfarers nesciunt, lomo typewriter officia ullamco vinyl irure pork belly seitan cred dreamcatcher fanny pack. Nostrud put a bird on it ea, 90's letterpress ennui wayfarers biodiesel fixie. Small batch fixie put a bird on it, ea pop-up lo-fi fingerstache umami quis you probably haven't heard of them tonx portland. Tonx direct trade neutra, 8-bit try-hard chambray banksy pinterest. Officia typewriter meggings VHS, hoodie stumptown eiusmod aesthetic quinoa cliché aliquip master cleanse 3 wolf moon.

4 RESULTS OF EXPERIMENTS

Qui squid craft beer eiusmod. Brooklyn est nulla, id jean shorts whatever flexitarian chambray irure. Laboris art party veniam, squid ad gluten-free aliqua wolf cillum single-origin coffee culpa pork belly fingerstache. Nihil semiotics echo park esse, DIY readymade Austin meggings. Kale chips williamsburg intelligentsia ethnic, try-hard freegan blue bottle magna selfies. Carles qui blue bottle, godard authentic flexitarian cred tofu fugiat kogi letterpress art party adipisicing pinterest pickled. Farm-to-table blog plaid delectus irure.

5 FINDINGS AND LESSONS LEARNED

Qui squid craft beer eiusmod. Brooklyn est nulla, id jean shorts whatever flexitarian chambray irure. Laboris art party veniam, squid ad gluten-free aliqua wolf cillum single-origin coffee culpa pork belly fingerstache. Nihil semiotics echo park esse, DIY readymade Austin meggings. Kale chips williamsburg intelligentsia ethnic, try-hard freegan blue bottle magna selfies. Carles qui blue bottle, godard authentic

Table 1: Sample Table Title

PART	DESCRIPTION
Dendrite	Input terminal
Axon	Output terminal
Soma	Cell body (contains cell nucleus)

flexitarian cred tofu fugiat kogi letterpress art party adipisicing pinterest pickled.
Farm-to-table blog plaid delectus irure.

5.1 CITATIONS, FIGURES, REFERENCES

5.1.1 Figures

Figure 1: Sample Figure Caption

References

[1] N. Ding and S. Vishwanathan, “t-logistic regression,” in *Advances in Neural Information Processing Systems 23*, J. Lafferty, C. K. I. Williams, J. Shawe-Taylor, R. Zemel, and A. Culotta, Eds., 2010, pp. 514–522.