

Assignment X

Subject WS24

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1 Section 1

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam.

$$\begin{aligned}\frac{\partial \mathcal{L}}{\partial \mathbf{b}^{(1)}} &= \frac{\partial \mathcal{L}}{\partial \mathbf{a}^{(2)}} \cdot \frac{\partial \mathbf{a}^{(2)}}{\partial \mathbf{z}^{(2)}} \cdot \frac{\partial \mathbf{z}^{(2)}}{\partial \mathbf{b}^{(1)}} \\ \Rightarrow \frac{\partial \mathcal{L}}{\partial b_k^{(1)}} &= \frac{\partial \mathcal{L}}{\partial a_i^{(2)}} \cdot \frac{\partial a_i^{(2)}}{\partial z_k^{(2)}} \cdot \frac{\partial z_k^{(2)}}{\partial b_k^{(1)}} = - \sum_{i=1}^3 y_i \frac{1}{a_i^{(2)}} \cdot a_i^{(2)} (\mathbb{1}\{i = k\} - a_k^{(2)}) \cdot 1 \\ &= - \sum_{i=1}^3 y_i (\mathbb{1}\{i = k\} - a_k^{(2)}) = - \sum_{i=1}^3 y_i \mathbb{1}\{i = k\} - y_i a_k^{(2)} = \sum_{i=1}^3 y_i a_k^{(2)} - \sum_{i=1}^3 y_i \mathbb{1}\{i = k\}\end{aligned}$$

2 Sec 2

2.1 Subsection

For a random sample from the batch we achieve the following results:

Some code or results...



Figure 1: Sunset in Split by Menci Clement Crnčić (1930)