Assignment 02: Logistic Regression from Scratch using a Neural Network Design

CSci 560: Neural Networks and Deep Learning

Description

Welcome to our second class assignment. In this assignment you will be building the components of a neural network like architecture by hand and from scratch, using basic numpy vectorized operations. You will build a logistic regression classifier to recognize cats. This assignment will step you through how to do this with a Neural Network mindset, and so will also hone your intuitions about deep learning.

Instructions:

- Do not use loops (for/while) in your code, unless the instructions explicitly ask you to do so.

Objectives

You will learn to:

- Build the general architecture of a learning algorithm, including:
  - Initializing parameters
  - Calculating the cost function and its gradient
  - Using an optimization algorithm (gradient descent)
- Gather all functions above to train a set of trainable parameters.
- Use the trained model to make predictions and evaluate its performance.

Overview and Setup

Assignment Tasks

Assignment Submission

Additional Information