ReadMe

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1 Overview

This is a repository to house the products of the projects I completed for my master's degree portfolio

2 Comparative assessment of Bayesian Credible Intervals and Frequentist Confidence Intervals

Analysis the relative performance of Bayesian credible intervals and Frequentist confidence intervals, running simulation studies under a number of conditions in which I varied sample size, and priors. The metrics of performance were percent coverage and length of the respective credible or confidence intervals.

3 Gradient Descent to optimize Gaussian Process parameters

Programming gradient descent algorithms from scratch in R to optimize the parameters of a Gaussian process. This included deriving the gradient and implementing a number of methods of gradient descent including stochastic and with momentum in one two and three dimensions.

4 Convolutional Neural Network to classify letters of American Sign Language (ASL)

Trained and implemented a pipeline to a convolutional neural network using Scikit-learn to segment and process images from an instructional video to classify the letters of the American Sign Language (ASL) alphabet.