Neural Network Project Proposal

Professor :Dr.White

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Team:Juliann Weir-Jackson and Vedant Jani

Motivation:

The use of neural networks to solve real world problems has always been interesting to us, parking spot detection is a common problem that occurs almost everyday and affects many. Our senior design project is also based on parking space detection. Completing this project will help improve our understanding of how to execute neural networks and will also contribute to the progress of our senior design project.

Goal:

This project will be done using a feedforward neural network, focusing on classification.The goal of this project will be to classify if a parking spot is occupied or unoccupied and to get the highest accuracy possible.Our aim is to be at least 80 percent accurate.The data set being used was collected from Roboflow and consists of twelve thousand four hundred and sixteen (12416) images of parking lots extracted from surveillance camera frames.Images of the parking lot were taken in different weather condition rainy ,sunny and cloudy. All images in the data set are also labelled.The data will be preprocessed and reshaped if necessary and a strategy for tuning hyperparameters will also be developed and tested on the neural network.(Link to dataset being used : https://public.roboflow.com/object-detection/pklot)

Expected Outcome:

Report including code implementation ,output from code ,report of findings and conclusion.