Traffic signs recognition by Computer Vision

Group 12

Chuntong Huang; Guoyi Jia; Hekang Zhang; Matthew Esposito; Matthew Jepson; Xiaoling Zhu; Zhicong Tang;

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Abstract

The present document is a coursework report for the module CMT307 Applied Machine Learning, for the academic year 2021-2022. This document supports the deployment of a Convolutional Neural Network for Computer Vision, with the scope of classifying traffic signs.

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Introduction

Background

Data collection and preparation

Problem definition

The present model attempts to simulate

Gym	Cycling track	Swimming	Studio	Cycling studio
- Machines - Weight lifting	- Casual cycling - Learn to ride - Better go ride	Swim for allSwim for fitnessSwim for 60+Swim for womenAqua aerobics	YogaAerobicsPilatesCircuitsZumbaBox fit	- Group cycling

Simulation Model

Strategy and approach

Experiments and tests

Verification

Validation

Scenario testing

Scenario 1

Scenario 2

(TEST ONLY) Maths

Equations

• Arrival times are modelled following an exponential distribution:

$$f(x;\lambda) = \lambda e^{-\lambda x} | x \ge 0$$

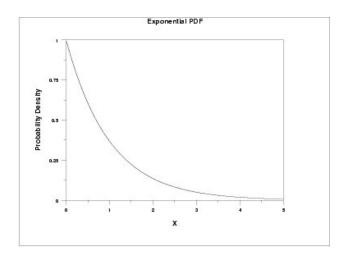


Figure 1: Exponential distribution (#fig:bb1)

Appendix 1

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Appendix 2

Second appendix without listing item

Citations

See for example (Géron 2019), (Avendi 2020) and (Chollet 2018).

Avendi, Michael. 2020. PyTorch Computer Vision Cookbook. First. Packt.

Chollet, Francois. 2018. Deep Learning with Python. First. Manning Publications Co.

Géron, Aurélien. 2019. Hands on Machine Learning with Scikit Learn, Keras and Tensorflow. Second. O'Relly.