*Localization and Classification*

Nayem Alam   
ECSE444 - Microprocessors  
McGill UniversityMontreal, Canada  
260743549

Thomas Philippon  
ECSE444 - Microprocessors  
McGill UniversityMontreal, Canada  
id?Tristan Bouchard   
ECSE444 - Microprocessors  
McGill UniversityMontreal, Canada  
id?

Shawn Vosburg  
ECSE444 - Microprocessors  
McGill UniversityMontreal, Canada  
id?Alex Masciotra   
ECSE444 - Microprocessors  
McGill UniversityMontreal, Canada  
id?

*Abstract*— The final project allowed us to learn and implement machine-learning related algorithms to analyze a specific dataset. The two problems that were addresses was classification and localization. The classification task required is to extract features to classify the type of car within an image. The localization task required us to pick objects of interest from a large image to classify them. The tools used in this project were a Jupyter Notebook with python3 programming language, and the MIO-TCD image dataset.

Keywords— Classifier, Localization, Machine-learning, SVM, Cross-validation

# Introduction

The purpose of this project was given to exercise the skills acquired from previous assignments to building a classification system using several algorithms, namely \_\_ & \_\_\_. The reason why these two methods were selected was because \_\_\_ & \_\_\_\_. In order to initiate the project, students were paired in groups of 4-5 and provided a source for acquiring a dataset [1]. Students were given 1 week (from last assignment) to complete this project.

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Identify applicable funding agency here. If none, delete this text box.

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*a**b* 

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## Some Common Mistakes

* The word “data” is plural, not singular.
* The subscript for the permeability of vacuum **0, and other common scientific constants, is zero with subscript formatting, not a lowercase letter “o”.
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1. Table Type Styles

| Table Head | Table Column Head | | |
| --- | --- | --- | --- |
| Table column subhead | Subhead | Subhead |
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1. Sample of a Table footnote. (*Table footnote*)
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1. MIO-TCD. (2018). Retrieved from http://podoce.dinf.usherbrooke.ca/challenge/dataset/
2. J. Clerk Maxwell, A Treatise on Electricity and Magnetism, 3rd ed., vol. 2. Oxford: Clarendon, 1892, pp.68–73.
3. I. S. Jacobs and C. P. Bean, “Fine particles, thin films and exchange anisotropy,” in Magnetism, vol. III, G. T. Rado and H. Suhl, Eds. New York: Academic, 1963, pp. 271–350.
4. K. Elissa, “Title of paper if known,” unpublished.
5. R. Nicole, “Title of paper with only first word capitalized,” J. Name Stand. Abbrev., in press.
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7. M. Young, The Technical Writer’s Handbook. Mill Valley, CA: University Science, 1989.

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