# ViZDoom: A Doom-based AI Research Platform for Visual Reinforcement Learning

## Reference

[add text here: e.g., a complete formatted reference from Mendeley or Zotero]

## Short Summary:

This paper takes several modern pedestrian detection algorithms, trains them with large training data sets and evaluates their performance against prediction data sets. It then takes the results it gained form these experiments and puts them into context, highlighting many pedestrian detection algorithm’s issues with occlusion, distance and image quality. Finally, it suggests areas of pedestrian detection that could be researched to better these systems. The paper shows that pedestrian detection systems require many improvements before they are usable in any real-world scenario.

## Why did I read this paper?

It was relevant to the topic and seemed like a good overview of the important technologies in pedestrian detection, as well as the relevant metrics.

## Personal view of the paper:

Works very well as an overview of modern pedestrian detection, good length overview of all necessary parts to the problems present in pedestrian detection

## What problem does this paper address?

The main issues negatively affecting pedestrian detection systems – occlusion, distance, camera quality and motion detection systems

## Is it an important problem?

Yes, if these areas where pedestrian detection struggles improve, the technology would become far more effective and thus potentially could be used in real systems.

## What is the significance of the result and its solution?

They outline the core problems facing pedestrian detection systems and suggest areas that should be researched to improve these

## What are the claimed novel contributions of the paper?

[add text here]

## What previous work is the basis for this research?

Individual pedestrian detection systems

## What methodology has been used?

Running experiments on individual pedestrian detection systems and comparing them

## Does the methodology seem appropriate for this problem?

Mostly yes, where possible the same data sets and other variables (machines running the systems, etc.) are used for these pedestrian detection systems and thus it is appropriate to compare the results. It is made clear when this is not the case i.e. different data sets are used.

## What conclusions are drawn from the results?

The core weaknesses of modern pedestrian detection systems

## Are they valid?

Yes, clearly these are the main areas holding pedestrian detection systems back

## What did I learn?

How large an impact is made by occlusion, distance, camera quality, etc. How much these factors are holding back pedestrian detection systems and how far pedestrian detection systems are from being useable in real systems.

## What (if anything) would I have done differently?

Try more pedestrian detection systems, perhaps ones that use other techniques to evaluate their effectiveness i.e. systems that don’t use sliding window approaches