

Datasets

<https://www.kaggle.com/datasets/natekolly/mw-warzone-cod-players>

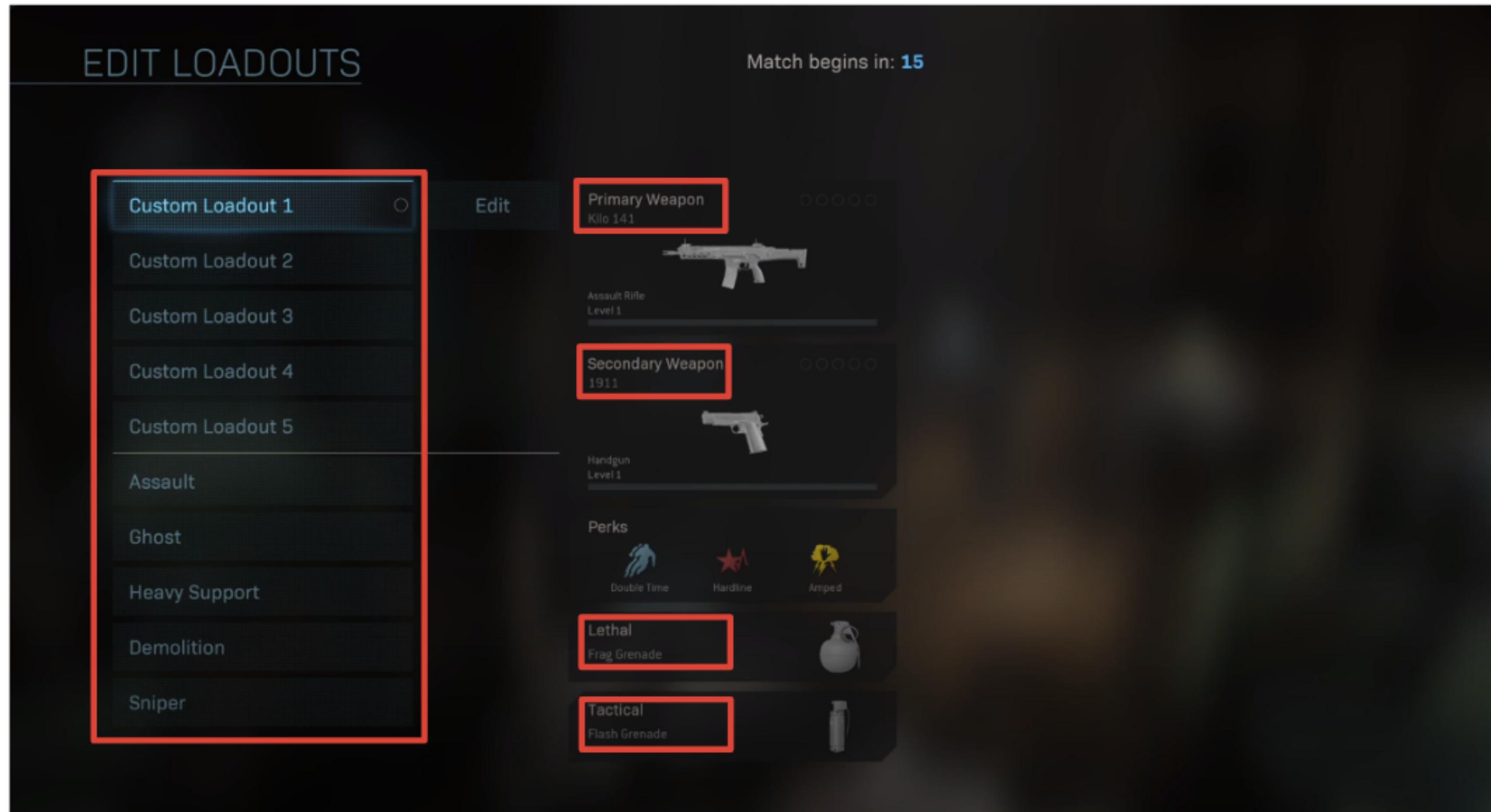
- Identifies enemy player heads and bodies
- Need to train the model
- Might work on another cod game, warzone long and a slow gamemode to demo on
 - Player models end up being similar, so the dataset for this specific game is good
 - Adapting it to another game with different player models would be a bad idea however
- "More" statistics considering i can detect a part of the body that was shot at and where bullets are landing



<https://www.kaggle.com/datasets/darkmatter2222/codmw2019dnnmodels>

- Looks at the center of the screen to find an enemy player using the "playertag"
- Model already trained
- Not very "informative" to pull statistics from compared to other option





Pre match screen

- Identify player weapons
- Identify loadout name

Easily done using OCR

UI 2



Score tracking is a bit iffy, but heres a solution using OCR

- Track if the player name is in the upper or lower blue box
- Then take into account the position and score values on the corresponding row

Map tracking

<https://gamedev.stackexchange.com/questions/12185>

Using small map "Speedball"

<https://gamedev.stackexchange.com/questions/12376>

- Good lighting
- Same "colour grading" as dataset



Player minimap



Top down view of "Speedball"

"Template matching" using open CV on yellow player arrow



Statistics

<https://youtu.be/FY2fc0-pQxo>

Info we have

- Loadout player used
- Player position on map
- When player fires weapon (bullet count changing)
- When player switches weapon (change in weapon name)
- When player uses throwables (grenade count changing)
- Position and score changes during play time

TO DO

Change in game

Now using:

Modern warfare is an extremely large game (120gb) and is iffy when working offline

CoD BO3

- Similar "colour grading" to modern warfare, should work well in identifying players still
- All UI elements have a darkened background colour, should help with OCR

UI 1



Pre match screen

- Identify player weapons
- Identify loadout name

Easily done using OCR

UI 2



Throwables (blue boxes) would watch for a change in colour as the icon for the grenade disappears when used

UI 2

Free-for-all screen

- Current equipped weapon
- Bullet count
- Throwables usage
- Score changes

Easily done using OCR

Map tracking explained on next slide



Throwables (blue boxes) would watch for a change in colour as the icon for the grenade disappears when used



Map tracking

<https://callofdutymaps.com/black-ops-3/nuk3town/>

Using nuketown

- Good lighting
- Very bright colours, some concerns over tracking players
- Brighter colours should help with contrast against player models



Player minimap



Top down view of "Nuketown"

"Template matching" using open CV on yellow player arrow



[https://
www.youtu
be.com/
watch?
v=89XMJAI
---](https://www.youtube.com/watch?v=89XMJAI---)

Extensions

- Recommended movements for players
- Parts of the maps they should be staying under

10

20

20

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Mandatory
10 hours
course
work

AWS
certification

AI
bootcamp

- Udemy
course
unreal/
unity

