Statična analiza kode
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KAZALO VSEBINE

KAZALO SLIK

1 PROGRAMSKI JEZIK

Naloga je bila napisana v programskem jeziku Python, orodje za statično analizo pa sem uporabil Pylint.

2 IZPIS

.\System\PRO_Detect.py:

```
(venv) PS C:\Users\simon\Desktop\Projekt-repo\pedestrian_recognition> pylint .\System\PRO_Detect.py
************* Module PRO_Detect
System\PRO_Detect.py:36:0: C0304: Final newline missing (missing-final-newline)
System\PRO_Detect.py:1:0: C0114: Missing module docstring (missing-module-docstring)
System\PRO_Detect.py:1:0: C0103: Module name "PRO_Detect" doesn't conform to snake_case naming style (invalid-name)
System\PRO_Detect.py:6:0: C0116: Missing function or method docstring (missing-function-docstring)
System\PRO_Detect.py:8:4: C0103: Variable name "COMPRESS" doesn't conform to snake_case naming style (invalid-name)
System\PRO_Detect.py:24:4: C0103: Variable name "Video_Streamer" doesn't conform to snake_case naming style (invalid-name)
System\PRO_Detect.py:25:4: C0103: Variable name "Video_Detection" doesn't conform to snake_case naming style (invalid-name)
System\PRO_Detect.py:4:0: C0411: standard import "ctypes" should be placed before third party imports "Detection.MUL_Stream.
Detect.Display" (wrong-import-order)


--------------------------------------------------------------
Your code has been rated at 6.52/10 (previous run: 6.52/10, +0.00)
```

Slika 1: PRO_Detect izpis

.\System\Detection\MUL_Detect.py:

```
************* Module MUL_Detect
System\Detection\MUL_Detect.py:117:0: C0301: Line too long (102/100) (line-too-long)
System\Detection\MUL_Detect.py:136:21: C0303: Trailing whitespace (trailing-whitespace)
System\Detection\MUL_Detect.py:167:0: C0301: Line too long (137/100) (line-too-long)
System\Detection\MUL_Detect.py:173:0: C0301: Line too long (145/100) (line-too-long)
System\Detection\MUL_Detect.py:1:0: C0114: Missing module docstring (missing-module-docstring)
System\Detection\MUL_Detect.py:1:0: C0103: Module name "MUL_Detect" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:12:0: C0116: Missing function or method docstring (missing-function-docstring)
System\Detection\MUL_Detect.py:12:0: C0103: Function name "RGB_v_YCbCr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:14:4: C0103: Variable name "YCbCr_from_RGB" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:18:4: C0103: Variable name "YCbCr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:22:0: C0116: Missing function or method docstring (missing-function-docstring)
System\Detection\MUL_Detect.py:22:0: C0103: Function name "YCbCr_v_RGB" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:24:4: C0103: Variable name "RGB_from_YCbCr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:28:4: C0103: Variable name "RGB" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:30:4: C0103: Variable name "RGB" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:35:0: C0116: Missing function or method docstring (missing-function-docstring)
System\Detection\MUL_Detect.py:35:0: C0103: Function name "Compression" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:36:18: E1101: Module 'cv2' has no 'resize' member (no-member)
```

Slika 2: MUL_Detect izpis 1

```
System\Detection\MUL_Detect.py:36:68: E1101: Module 'cv2' has no 'INTER_AREA' member (no-member)
System\Detection\MUL_Detect.py:43:4: C0103: Variable name "Y" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:43:7: C0103: Variable name "Cb" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:43:11: C0103: Variable name "Cr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:43:16: E1101: Module 'cv2' has no 'split' member (no-member)
System\Detection\MUL_Detect.py:51:4: C0103: Variable name "Cb" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:52:4: C0103: Variable name "Cr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:60:4: C0103: Variable name "CbCr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:67:12: E1101: Module 'cv2' has no 'merge' member (no-member)
System\Detection\MUL_Detect.py:74:0: C0116: Missing function or method docstring (missing-function-docstring)
System\Detection\MUL_Detect.py:74:0: C0103: Function name "Decompression" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:76:4: C0103: Variable name "Y" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:76:7: C0103: Variable name "CbCr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:76:14: E1101: Module 'cv2' has no 'split' member (no-member)
System\Detection\MUL_Detect.py:83:4: C0103: Variable name "Cb" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:86:4: C0103: Variable name "Cr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:93:18: E1101: Module 'cv2' has no 'merge' member (no-member)
System\Detection\MUL_Detect.py:100:18: E1101: Module 'cv2' has no 'resize' member (no-member)
System\Detection\MUL_Detect.py:100:70: E1101: Module 'cv2' has no 'INTER_LINEAR' member (no-member)
System\Detection\MUL_Detect.py:104:0: C0116: Missing function or method docstring (missing-function-docstring)
System\Detection\MUL_Detect.py:104:0: C0103: Function name "Display" doesn't conform to snake_case naming style (invalid-name)
```

Slika 3: MUL_Detect izpis 2

```
System\Detection\MUL_Detect.py:104:12: C0103: Argument name "InputQueue" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:104:30: C0103: Argument name "COMPRESS" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:104:0: R0914: Too many local variables (39/15) (too-many-locals)
System\Detection\MUL_Detect.py:136:4: C0103: Variable name "fpsReader" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:146:36: C2801: Unnecessarily calls dunder method __str__. Use str built-in function. (unnecessary-dunder-call)
System\Detection\MUL_Detect.py:147:11: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)
System\Detection\MUL_Detect.py:166:22: E1101: Module 'cv2' has no 'resize' member (no-member)
System\Detection\MUL_Detect.py:175:16: E1101: Module 'cv2' has no 'rectangle' member (no-member)
System\Detection\MUL_Detect.py:182:16: E1101: Module 'cv2' has no 'circle' member (no-member)
System\Detection\MUL_Detect.py:197:8: C0103: Variable name "TIMESTAMP" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Detect.py:209:15: E1101: Module 'kafka' has no 'KafkaError' member (no-member)
System\Detection\MUL_Detect.py:215:8: E1101: Module 'cv2' has no 'imshow' member (no-member)
System\Detection\MUL_Detect.py:215:37: E1101: Module 'cv2' has no 'resize' member (no-member)
System\Detection\MUL_Detect.py:219:11: E1101: Module 'cv2' has no 'waitKey' member (no-member)
System\Detection\MUL_Detect.py:104:0: R0912: Too many branches (13/12) (too-many-branches)
System\Detection\MUL_Detect.py:104:0: R0915: Too many statements (66/50) (too-many-statements)
System\Detection\MUL_Detect.py:147:11: R1732: Consider using 'with' for resource-allocating operations (consider-using-with)
System\Detection\MUL_Detect.py:208:12: W0612: Unused variable 'rm' (unused-variable)
System\Detection\MUL_Detect.py:3:0: C0411: standard import "time" should be placed before third party import "kafka" (wrong-import-order)
System\Detection\MUL_Detect.py:5:0: C0411: standard import "json" should be placed before third party imports "kafka", "cv2" (wrong-import-order)
System\Detection\MUL_Detect.py:10:0: C0411: standard import "datetime.datetime" should be placed before third party imports "kafka", "cv2", "torch"
```

Slika 4: MUL_Detect izpis 3

.\System\Detection\MUL_Stream.py:

```
System\Detection\MUL_Stream.py:1:0: C0114: Missing module docstring (missing-module-docstring)
System\Detection\MUL_Stream.py:1:0: C0103: Module name "MUL_Stream" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:9:0: C0116: Missing function or method docstring (missing-function-docstring)
System\Detection\MUL_Stream.py:9:0: C0103: Function name "RGB_v_YCbCr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:11:4: C0103: Variable name "YCbCr_from_RGB" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:15:4: C0103: Variable name "YCbCr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:19:0: C0116: Missing function or method docstring (missing-function-docstring)
System\Detection\MUL_Stream.py:19:0: C0103: Function name "YCbCr_v_RGB" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:21:4: C0103: Variable name "RGB_from_YCbCr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:25:4: C0103: Variable name "RGB" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:27:4: C0103: Variable name "RGB" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:32:0: C0116: Missing function or method docstring (missing-function-docstring)
System\Detection\MUL_Stream.py:32:0: C0103: Function name "Compression" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:33:18: E1101: Module 'cv2' has no 'resize' member (no-member)
System\Detection\MUL_Stream.py:33:68: E1101: Module 'cv2' has no 'INTER_AREA' member (no-member)
System\Detection\MUL_Stream.py:40:4: C0103: Variable name "Y" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:40:7: C0103: Variable name "Cb" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:40:11: C0103: Variable name "Cr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:40:16: E1101: Module 'cv2' has no 'split' member (no-member)
```

Slika 5: MUL_Stream izpis 1

```
System\Detection\MUL_Stream.py:48:4: C0103: Variable name "Cb" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:49:4: C0103: Variable name "Cr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:57:4: C0103: Variable name "CbCr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:64:12: E1101: Module 'cv2' has no 'merge' member (no-member)
System\Detection\MUL_Stream.py:71:0: C0116: Missing function or method docstring (missing-function-docstring)
System\Detection\MUL_Stream.py:71:0: C0103: Function name "Decompression" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:73:4: C0103: Variable name "Y" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:73:7: C0103: Variable name "CbCr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:73:14: E1101: Module 'cv2' has no 'split' member (no-member)
System\Detection\MUL_Stream.py:80:4: C0103: Variable name "Cb" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:83:4: C0103: Variable name "Cr" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:90:18: E1101: Module 'cv2' has no 'merge' member (no-member)
System\Detection\MUL_Stream.py:97:18: E1101: Module 'cv2' has no 'resize' member (no-member)
System\Detection\MUL_Stream.py:97:70: E1101: Module 'cv2' has no 'INTER_LINEAR' member (no-member)
System\Detection\MUL_Stream.py:102:0: C0116: Missing function or method docstring (missing-function-docstring)
System\Detection\MUL_Stream.py:102:0: C0103: Function name "Stream" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:102:11: C0103: Argument name "ExportQueue" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:102:30: C0103: Argument name "COMPRESS" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:102:0: R0914: Too many local variables (21/15) (too-many-locals)
System\Detection\MUL_Stream.py:111:7: C0121: Comparison 'video_path != None' should be 'video_path is not None' (singleton-comparison)
System\Detection\MUL_Stream.py:113:16: E1101: Module 'cv2' has no 'VideoCapture' member (no-member)
```

Slika 6: MUL_Stream izpis 2

```
System\Detection\MUL_Stream.py:116:30: E1101: Module 'cv2' has no 'CAP_PROP_FRAME_WIDTH' member (no-member)
System\Detection\MUL_Stream.py:117:31: E1101: Module 'cv2' has no 'CAP_PROP_FRAME_HEIGHT' member (no-member)
System\Detection\MUL_Stream.py:118:28: E1101: Module 'cv2' has no 'CAP_PROP_FPS' member (no-member)
System\Detection\MUL_Stream.py:121:16: E1101: Module 'cv2' has no 'VideoCapture' member (no-member)
System\Detection\MUL_Stream.py:121:36: E1101: Module 'cv2' has no 'CAP_DSHOW' member (no-member)
System\Detection\MUL_Stream.py:123:18: E1101: Module 'cv2' has no 'CAP_PROP_FOURCC' member (no-member)
System\Detection\MUL_Stream.py:123:39: E1101: Module 'cv2' has no 'VideoWriter' member (no-member)
System\Detection\MUL_Stream.py:124:18: E1101: Module 'cv2' has no 'CAP_PROP_FOURCC' member (no-member)
System\Detection\MUL_Stream.py:124:39: E1101: Module 'cv2' has no 'VideoWriter' member (no-member)
System\Detection\MUL_Stream.py:130:18: E1101: Module 'cv2' has no 'CAP_PROP_FPS' member (no-member)
System\Detection\MUL_Stream.py:131:18: E1101: Module 'cv2' has no 'CAP_PROP_FRAME_WIDTH' member (no-member)
System\Detection\MUL_Stream.py:132:18: E1101: Module 'cv2' has no 'CAP_PROP_FRAME_HEIGHT' member (no-member)
System\Detection\MUL_Stream.py:136:4: C0103: Variable name "STOP" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:138:4: C0103: Variable name "fpsReader" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:159:28: E1101: Module 'cv2' has no 'resize' member (no-member)
System\Detection\MUL_Stream.py:147:4: R1702: Too many nested blocks (6/5) (too-many-nested-blocks)
System\Detection\MUL_Stream.py:188:16: E1101: Module 'cv2' has no 'imshow' member (no-member)
System\Detection\MUL_Stream.py:188:45: E1101: Module 'cv2' has no 'resize' member (no-member)
System\Detection\MUL_Stream.py:193:19: E1101: Module 'cv2' has no 'waitKey' member (no-member)
System\Detection\MUL_Stream.py:194:20: C0103: Variable name "STOP" doesn't conform to snake_case naming style (invalid-name)
System\Detection\MUL_Stream.py:204:16: C0103: Variable name "STOP" doesn't conform to snake_case naming style (invalid-name)
```

Slika 7: MUL_Stream izpis 3

```
System\Detection\MUL_Stream.py:207:18: E1101: Module 'cv2' has no 'CAP_PROP_POS_FRAMES' member (no-member)
System\Detection\MUL_Stream.py:213:4: E1101: Module 'cv2' has no 'destroyAllWindows' member (no-member)
System\Detection\MUL_Stream.py:102:0: R0912: Too many branches (19/12) (too-many-branches)
System\Detection\MUL_Stream.py:102:0: R0915: Too many statements (69/50) (too-many-statements)
System\Detection\MUL_Stream.py:219:4: C0103: Constant name "size" doesn't conform to UPPER_CASE naming style (invalid-name)
System\Detection\MUL_Stream.py:2:0: C0411: standard import "time" should be placed before third party import "cv2" (wrong-import-order)
System\Detection\MUL_Stream.py:3:0: C0411: standard import "os" should be placed before third party import "cv2" (wrong-import-order)
System\Detection\MUL_Stream.py:6:0: C0411: standard import "multiprocessing.Array" should be placed before third party imports "cv2", "cvzone.FPS.FP
S", "numpy" (wrong-import-order)
System\Detection\MUL_Stream.py:7:0: C0411: standard import "ctypes" should be placed before third party imports "cv2", "cvzone.FPS.FPS", "numpy" (wr
ong-import-order)
```

Slika 8: MUL_Stream izpis 4

- [I]nformational messages that Pylint emits (do not contribute to your analysis score)
- [R]efactor for a "good practice" metric violation
- [C]onvention for coding standard violation
- [W]arning for stylistic problems, or minor programming issues
- [E]rror for important programming issues (i.e. most probably bug)
- [F]atal for errors which prevented further processing

3 ŠTEVILO NAPAK

Orodje vrne 41 napak. Vse napake javljajo, da objekt ali funkcija ne obstaja v modulu cv2 (lažno).

```
113:16: E1101: Module 'cv2' has no 'VideoCapture' member (no-mer
116:30: E1101: Module 'cv2' has no 'CAP_PROP_FRAME_WIDTH' membe:
117:31: E1101: Module 'cv2' has no 'CAP_PROP_FRAME_HEIGHT' memb
118:28: E1101: Module 'cv2' has no 'CAP_PROP_FPS' member (no-mer
121:16: E1101: Module 'cv2' has no 'VideoCapture' member (no-mer
121:36: E1101: Module 'cv2' has no 'CAP_DSHOW' member (no-membe:
123:18: E1101: Module 'cv2' has no 'CAP_PROP_FOURCC' member (no-
123:39: E1101: Module 'cv2' has no 'VideoWriter' member (no-meml
124:18: E1101: Module 'cv2' has no 'CAP_PROP_FOURCC' member (no-
124:39: E1101: Module 'cv2' has no 'VideoWriter' member (no-meml
130:18: E1101: Module 'cv2' has no 'CAP_PROP_FPS' member (no-mer
```

Slika 9: Napake

4 ŠTEVILO OPOZORIL

2x Warning for stylistic problems, or minor programming issues

(unspecified-encoding)

(unused-variable)

8x Refactor for a "good practice" metric violation

(too-many-branches),

(too-many-locals)

(too-many-nested-blocks)

…

87x Convention for coding standard violation

(invalid-name)

(consider-using-with)

(wrong-import-order)

(missing-module-docstring)

…

Skupaj je 97 napak.

5   KOLIKO OD TEH NAPAK JE STILSKIH

87 napak je stilskih:

   57x (invalid-name)

   10x (missing-function-docstring)

   1x (singleton-comparison)

   19 (wrong-import-order)

6 KOLIKO OD TEH NAPAK JE RESNIH

2x Warning for stylistic problems, or minor programming issues

(unspecified-encoding)

(unused-variable)

8x Refactor for a "good practice" metric violation

(too-many-branches),

(too-many-locals)

(too-many-nested-blocks)

Od naštetih napak in opozoril je samo 10 resnih. Te se navezujejo na pomankanje argumentov klicanih funkcij in na nepotrebne spremenljivke, veje in bloke.

7   OCENA ČASA ZA ODPRAVLJANJE NAPAK

Za popravljanje programske kode mislim, da bi porabil okrog 2 uri, saj so skoraj vse napake pri formatiranju in ker se odseki kode ponavljajo med skriptami. Spremenljivke z napačnim imenom se ponavljajo, to je preprosto rešiti v sodobnih urejevalnikih kode.