Contents

# CariesDetectionPerformance

*(Tags: @NFR, @NFR002, @UR003, @Performance)*

Measure the performance on the evaluation image set

## PerformanceEvaluation

*(Tags: @NFR002-1, @UR003)*

**Given**  I am logged in with analysis permissions

**When**  I evaluate the images

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\SC22.tif | TestData\GoldStandard\SC22.tif.caries.json |
| TestData\Images\SC28.tif | TestData\GoldStandard\SC28.tif.caries.json |
| TestData\Images\SC56.tif | TestData\GoldStandard\SC56.tif.caries.json |
| TestData\Images\SC64.tif | TestData\GoldStandard\SC64.tif.caries.json |
| TestData\Images\SC75.tif | TestData\GoldStandard\SC75.tif.caries.json |
| TestData\Images\SC85.tif | TestData\GoldStandard\SC85.tif.caries.json |
| TestData\Images\SC94.tif | TestData\GoldStandard\SC94.tif.caries.json |
| TestData\Images\ML29.tif | TestData\GoldStandard\ML29.tif.caries.json |
| TestData\Images\ML45.tif | TestData\GoldStandard\ML45.tif.caries.json |
| TestData\Images\ML51.tif | TestData\GoldStandard\ML51.tif.caries.json |
| TestData\Images\ML83.tif | TestData\GoldStandard\ML83.tif.caries.json |
| TestData\Images\ML89.tif | TestData\GoldStandard\ML89.tif.caries.json |
| TestData\Images\ML95.tif | TestData\GoldStandard\ML95.tif.caries.json |
| TestData\Images\ML102.tif | TestData\GoldStandard\ML102.tif.caries.json |
| TestData\Images\ML123.tif | TestData\GoldStandard\ML123.tif.caries.json |
| TestData\Images\ML128.tif | TestData\GoldStandard\ML128.tif.caries.json |
| TestData\Images\ML135.tif | TestData\GoldStandard\ML135.tif.caries.json |
| TestData\Images\RC8.tif | TestData\GoldStandard\RC8.tif.caries.json |
| TestData\Images\RC36.tif | TestData\GoldStandard\RC36.tif.caries.json |
| TestData\Images\RC43.tif | TestData\GoldStandard\RC43.tif.caries.json |
| TestData\Images\RC51.tif | TestData\GoldStandard\RC51.tif.caries.json |
| TestData\Images\RC56.tif | TestData\GoldStandard\RC56.tif.caries.json |
| TestData\Images\RC64.tif | TestData\GoldStandard\RC64.tif.caries.json |
| TestData\Images\RC79.tif | TestData\GoldStandard\RC79.tif.caries.json |
| TestData\Images\RC104.tif | TestData\GoldStandard\RC104.tif.caries.json |
| TestData\Images\RC108.tif | TestData\GoldStandard\RC108.tif.caries.json |
| TestData\Images\RC133.tif | TestData\GoldStandard\RC133.tif.caries.json |
| TestData\Images\RC136.tif | TestData\GoldStandard\RC136.tif.caries.json |
| TestData\Images\TS4.tif | TestData\GoldStandard\TS4.tif.caries.json |
| TestData\Images\TS19.tif | TestData\GoldStandard\TS19.tif.caries.json |
| TestData\Images\TS21.tif | TestData\GoldStandard\TS21.tif.caries.json |
| TestData\Images\TS45.tif | TestData\GoldStandard\TS45.tif.caries.json |
| TestData\Images\TS50.tif | TestData\GoldStandard\TS50.tif.caries.json |
| TestData\Images\TS75.tif | TestData\GoldStandard\TS75.tif.caries.json |
| TestData\Images\TS91.tif | TestData\GoldStandard\TS91.tif.caries.json |
| TestData\Images\TS95.tif | TestData\GoldStandard\TS95.tif.caries.json |
| TestData\Images\TS129.tif | TestData\GoldStandard\TS129.tif.caries.json |
| TestData\Images\TS146.tif | TestData\GoldStandard\TS146.tif.caries.json |
| TestData\Images\TS152.tif | TestData\GoldStandard\TS152.tif.caries.json |
| TestData\Images\TS212.tif | TestData\GoldStandard\TS212.tif.caries.json |
| TestData\Images\TS213.tif | TestData\GoldStandard\TS213.tif.caries.json |
| TestData\Images\TS217.tif | TestData\GoldStandard\TS217.tif.caries.json |
| TestData\Images\TS223.tif | TestData\GoldStandard\TS223.tif.caries.json |
| TestData\Images\TS230.tif | TestData\GoldStandard\TS230.tif.caries.json |
| TestData\Images\TS236.tif | TestData\GoldStandard\TS236.tif.caries.json |
| TestData\Images\TS237.tif | TestData\GoldStandard\TS237.tif.caries.json |
| TestData\Images\TS296.tif | TestData\GoldStandard\TS296.tif.caries.json |
| TestData\Images\TS299.tif | TestData\GoldStandard\TS299.tif.caries.json |
| TestData\Images\TS305.tif | TestData\GoldStandard\TS305.tif.caries.json |
| TestData\Images\TS313.tif | TestData\GoldStandard\TS313.tif.caries.json |
| TestData\Images\JD16.tif | TestData\GoldStandard\JD16.tif.caries.json |
| TestData\Images\JD43.tif | TestData\GoldStandard\JD43.tif.caries.json |
| TestData\Images\JD73.tif | TestData\GoldStandard\JD73.tif.caries.json |
| TestData\Images\JD91.tif | TestData\GoldStandard\JD91.tif.caries.json |
| TestData\Images\JD98.tif | TestData\GoldStandard\JD98.tif.caries.json |
| TestData\Images\JD107.tif | TestData\GoldStandard\JD107.tif.caries.json |
| TestData\Images\JD131.tif | TestData\GoldStandard\JD131.tif.caries.json |
| TestData\Images\JD142.tif | TestData\GoldStandard\JD142.tif.caries.json |
| TestData\Images\JD143.tif | TestData\GoldStandard\JD143.tif.caries.json |
| TestData\Images\CR26.dcm | TestData\GoldStandard\CR26.dcm.caries.json |
| TestData\Images\CR33.dcm | TestData\GoldStandard\CR33.dcm.caries.json |
| TestData\Images\CR44.dcm | TestData\GoldStandard\CR44.dcm.caries.json |
| TestData\Images\CR83.dcm | TestData\GoldStandard\CR83.dcm.caries.json |
| TestData\Images\CR98.dcm | TestData\GoldStandard\CR98.dcm.caries.json |
| TestData\Images\CR108.dcm | TestData\GoldStandard\CR108.dcm.caries.json |
| TestData\Images\CR117.dcm | TestData\GoldStandard\CR117.dcm.caries.json |
| TestData\Images\CR128.dcm | TestData\GoldStandard\CR128.dcm.caries.json |
| TestData\Images\CR138.dcm | TestData\GoldStandard\CR138.dcm.caries.json |
| TestData\Images\CR139.dcm | TestData\GoldStandard\CR139.dcm.caries.json |
| TestData\Images\CR145.dcm | TestData\GoldStandard\CR145.dcm.caries.json |
| TestData\Images\VC11.dcm | TestData\GoldStandard\VC11.dcm.caries.json |
| TestData\Images\VC26.dcm | TestData\GoldStandard\VC26.dcm.caries.json |
| TestData\Images\VC28.dcm | TestData\GoldStandard\VC28.dcm.caries.json |
| TestData\Images\VC35.dcm | TestData\GoldStandard\VC35.dcm.caries.json |
| TestData\Images\VC45.dcm | TestData\GoldStandard\VC45.dcm.caries.json |
| TestData\Images\VC60.dcm | TestData\GoldStandard\VC60.dcm.caries.json |
| TestData\Images\VC87.dcm | TestData\GoldStandard\VC87.dcm.caries.json |
| TestData\Images\VC99.dcm | TestData\GoldStandard\VC99.dcm.caries.json |
| TestData\Images\VC106.dcm | TestData\GoldStandard\VC106.dcm.caries.json |
| TestData\Images\VC113.dcm | TestData\GoldStandard\VC113.dcm.caries.json |
| TestData\Images\AK2.dcm | TestData\GoldStandard\AK2.dcm.caries.json |
| TestData\Images\AK48.dcm | TestData\GoldStandard\AK48.dcm.caries.json |
| TestData\Images\AK51.dcm | TestData\GoldStandard\AK51.dcm.caries.json |
| TestData\Images\AK77.dcm | TestData\GoldStandard\AK77.dcm.caries.json |
| TestData\Images\AK82.dcm | TestData\GoldStandard\AK82.dcm.caries.json |
| TestData\Images\AK84.dcm | TestData\GoldStandard\AK84.dcm.caries.json |
| TestData\Images\AK88.dcm | TestData\GoldStandard\AK88.dcm.caries.json |
| TestData\Images\AK89.dcm | TestData\GoldStandard\AK89.dcm.caries.json |
| TestData\Images\AK102.dcm | TestData\GoldStandard\AK102.dcm.caries.json |
| TestData\Images\image21.tif | TestData\GoldStandard\image21.tif.caries.json |
| TestData\Images\image26.tif | TestData\GoldStandard\image26.tif.caries.json |
| TestData\Images\image33.tif | TestData\GoldStandard\image33.tif.caries.json |
| TestData\Images\image37.tif | TestData\GoldStandard\image37.tif.caries.json |
| TestData\Images\image55.tif | TestData\GoldStandard\image55.tif.caries.json |
| TestData\Images\image56.tif | TestData\GoldStandard\image56.tif.caries.json |
| TestData\Images\image60.tif | TestData\GoldStandard\image60.tif.caries.json |
| TestData\Images\image84.tif | TestData\GoldStandard\image84.tif.caries.json |
| TestData\Images\image105.tif | TestData\GoldStandard\image105.tif.caries.json |
| TestData\Images\image127.tif | TestData\GoldStandard\image127.tif.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

**Then**  the {SensitivityD1D2} is at least 0.6

## PerformanceEvaluationStudyImageSet

*(Tags: @NFR002-2, @UR003)*

**When**  I evaluate the images using the caries service

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\AK2.dcm | TestData\GoldStandard\AK2.dcm.caries.json |
| TestData\Images\AK51.dcm | TestData\GoldStandard\AK51.dcm.caries.json |
| TestData\Images\AK82.dcm | TestData\GoldStandard\AK82.dcm.caries.json |
| TestData\Images\CR44.dcm | TestData\GoldStandard\CR44.dcm.caries.json |
| TestData\Images\CR83.dcm | TestData\GoldStandard\CR83.dcm.caries.json |
| TestData\Images\CR108.dcm | TestData\GoldStandard\CR108.dcm.caries.json |
| TestData\Images\image33.tif | TestData\GoldStandard\image33.tif.caries.json |
| TestData\Images\image37.tif | TestData\GoldStandard\image37.tif.caries.json |
| TestData\Images\image56.tif | TestData\GoldStandard\image56.tif.caries.json |
| TestData\Images\image84.tif | TestData\GoldStandard\image84.tif.caries.json |
| TestData\Images\image127.tif | TestData\GoldStandard\image127.tif.caries.json |
| TestData\Images\JD16.tif | TestData\GoldStandard\JD16.tif.caries.json |
| TestData\Images\ML29.tif | TestData\GoldStandard\ML29.tif.caries.json |
| TestData\Images\ML51.tif | TestData\GoldStandard\ML51.tif.caries.json |
| TestData\Images\ML83.tif | TestData\GoldStandard\ML83.tif.caries.json |
| TestData\Images\RC36.tif | TestData\GoldStandard\RC36.tif.caries.json |
| TestData\Images\RC51.tif | TestData\GoldStandard\RC51.tif.caries.json |
| TestData\Images\TS91.tif | TestData\GoldStandard\TS91.tif.caries.json |
| TestData\Images\TS146.tif | TestData\GoldStandard\TS146.tif.caries.json |
| TestData\Images\TS230.tif | TestData\GoldStandard\TS230.tif.caries.json |
| TestData\Images\TS296.tif | TestData\GoldStandard\TS296.tif.caries.json |
| TestData\Images\TS305.tif | TestData\GoldStandard\TS305.tif.caries.json |
| TestData\Images\VC11.dcm | TestData\GoldStandard\VC11.dcm.caries.json |
| TestData\Images\VC87.dcm | TestData\GoldStandard\VC87.dcm.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

**Then**  the {SensitivityD1D2} is at least 0.7

## PerformanceEvaluation-SC

*(Tags: @NFR002-1, @UR003)*

**When**  I evaluate the images using the caries service

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\SC22.tif | TestData\GoldStandard\SC22.tif.caries.json |
| TestData\Images\SC28.tif | TestData\GoldStandard\SC28.tif.caries.json |
| TestData\Images\SC56.tif | TestData\GoldStandard\SC56.tif.caries.json |
| TestData\Images\SC64.tif | TestData\GoldStandard\SC64.tif.caries.json |
| TestData\Images\SC75.tif | TestData\GoldStandard\SC75.tif.caries.json |
| TestData\Images\SC85.tif | TestData\GoldStandard\SC85.tif.caries.json |
| TestData\Images\SC94.tif | TestData\GoldStandard\SC94.tif.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

## PerformanceEvaluation-ML

*(Tags: @NFR002-1, @UR003)*

**When**  I evaluate the images using the caries service

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\ML29.tif | TestData\GoldStandard\ML29.tif.caries.json |
| TestData\Images\ML45.tif | TestData\GoldStandard\ML45.tif.caries.json |
| TestData\Images\ML51.tif | TestData\GoldStandard\ML51.tif.caries.json |
| TestData\Images\ML83.tif | TestData\GoldStandard\ML83.tif.caries.json |
| TestData\Images\ML89.tif | TestData\GoldStandard\ML89.tif.caries.json |
| TestData\Images\ML95.tif | TestData\GoldStandard\ML95.tif.caries.json |
| TestData\Images\ML102.tif | TestData\GoldStandard\ML102.tif.caries.json |
| TestData\Images\ML123.tif | TestData\GoldStandard\ML123.tif.caries.json |
| TestData\Images\ML128.tif | TestData\GoldStandard\ML128.tif.caries.json |
| TestData\Images\ML135.tif | TestData\GoldStandard\ML135.tif.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

## PerformanceEvaluation-RC

*(Tags: @NFR002-1, @UR003)*

**When**  I evaluate the images using the caries service

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\RC8.tif | TestData\GoldStandard\RC8.tif.caries.json |
| TestData\Images\RC36.tif | TestData\GoldStandard\RC36.tif.caries.json |
| TestData\Images\RC43.tif | TestData\GoldStandard\RC43.tif.caries.json |
| TestData\Images\RC51.tif | TestData\GoldStandard\RC51.tif.caries.json |
| TestData\Images\RC56.tif | TestData\GoldStandard\RC56.tif.caries.json |
| TestData\Images\RC64.tif | TestData\GoldStandard\RC64.tif.caries.json |
| TestData\Images\RC79.tif | TestData\GoldStandard\RC79.tif.caries.json |
| TestData\Images\RC104.tif | TestData\GoldStandard\RC104.tif.caries.json |
| TestData\Images\RC108.tif | TestData\GoldStandard\RC108.tif.caries.json |
| TestData\Images\RC133.tif | TestData\GoldStandard\RC133.tif.caries.json |
| TestData\Images\RC136.tif | TestData\GoldStandard\RC136.tif.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

## PerformanceEvaluation-TS01

*(Tags: @NFR002-1, @UR003)*

**When**  I evaluate the images using the caries service

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\TS4.tif | TestData\GoldStandard\TS4.tif.caries.json |
| TestData\Images\TS19.tif | TestData\GoldStandard\TS19.tif.caries.json |
| TestData\Images\TS21.tif | TestData\GoldStandard\TS21.tif.caries.json |
| TestData\Images\TS45.tif | TestData\GoldStandard\TS45.tif.caries.json |
| TestData\Images\TS50.tif | TestData\GoldStandard\TS50.tif.caries.json |
| TestData\Images\TS75.tif | TestData\GoldStandard\TS75.tif.caries.json |
| TestData\Images\TS91.tif | TestData\GoldStandard\TS91.tif.caries.json |
| TestData\Images\TS95.tif | TestData\GoldStandard\TS95.tif.caries.json |
| TestData\Images\TS129.tif | TestData\GoldStandard\TS129.tif.caries.json |
| TestData\Images\TS146.tif | TestData\GoldStandard\TS146.tif.caries.json |
| TestData\Images\TS152.tif | TestData\GoldStandard\TS152.tif.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

## PerformanceEvaluation-TS-02

*(Tags: @NFR002-1, @UR003)*

**When**  I evaluate the images using the caries service

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\TS212.tif | TestData\GoldStandard\TS212.tif.caries.json |
| TestData\Images\TS213.tif | TestData\GoldStandard\TS213.tif.caries.json |
| TestData\Images\TS217.tif | TestData\GoldStandard\TS217.tif.caries.json |
| TestData\Images\TS223.tif | TestData\GoldStandard\TS223.tif.caries.json |
| TestData\Images\TS230.tif | TestData\GoldStandard\TS230.tif.caries.json |
| TestData\Images\TS236.tif | TestData\GoldStandard\TS236.tif.caries.json |
| TestData\Images\TS237.tif | TestData\GoldStandard\TS237.tif.caries.json |
| TestData\Images\TS296.tif | TestData\GoldStandard\TS296.tif.caries.json |
| TestData\Images\TS299.tif | TestData\GoldStandard\TS299.tif.caries.json |
| TestData\Images\TS305.tif | TestData\GoldStandard\TS305.tif.caries.json |
| TestData\Images\TS313.tif | TestData\GoldStandard\TS313.tif.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

## PerformanceEvaluation-JD

*(Tags: @NFR002-1, @UR003)*

**When**  I evaluate the images using the caries service

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\JD16.tif | TestData\GoldStandard\JD16.tif.caries.json |
| TestData\Images\JD43.tif | TestData\GoldStandard\JD43.tif.caries.json |
| TestData\Images\JD73.tif | TestData\GoldStandard\JD73.tif.caries.json |
| TestData\Images\JD91.tif | TestData\GoldStandard\JD91.tif.caries.json |
| TestData\Images\JD98.tif | TestData\GoldStandard\JD98.tif.caries.json |
| TestData\Images\JD107.tif | TestData\GoldStandard\JD107.tif.caries.json |
| TestData\Images\JD131.tif | TestData\GoldStandard\JD131.tif.caries.json |
| TestData\Images\JD142.tif | TestData\GoldStandard\JD142.tif.caries.json |
| TestData\Images\JD143.tif | TestData\GoldStandard\JD143.tif.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

## PerformanceEvaluation-CR

*(Tags: @NFR002-1, @UR003)*

**When**  I evaluate the images using the caries service

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\CR26.dcm | TestData\GoldStandard\CR26.dcm.caries.json |
| TestData\Images\CR33.dcm | TestData\GoldStandard\CR33.dcm.caries.json |
| TestData\Images\CR44.dcm | TestData\GoldStandard\CR44.dcm.caries.json |
| TestData\Images\CR83.dcm | TestData\GoldStandard\CR83.dcm.caries.json |
| TestData\Images\CR98.dcm | TestData\GoldStandard\CR98.dcm.caries.json |
| TestData\Images\CR108.dcm | TestData\GoldStandard\CR108.dcm.caries.json |
| TestData\Images\CR117.dcm | TestData\GoldStandard\CR117.dcm.caries.json |
| TestData\Images\CR128.dcm | TestData\GoldStandard\CR128.dcm.caries.json |
| TestData\Images\CR138.dcm | TestData\GoldStandard\CR138.dcm.caries.json |
| TestData\Images\CR139.dcm | TestData\GoldStandard\CR139.dcm.caries.json |
| TestData\Images\CR145.dcm | TestData\GoldStandard\CR145.dcm.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

## PerformanceEvaluation-VC

*(Tags: @NFR002-1, @UR003)*

**When**  I evaluate the images using the caries service

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\VC11.dcm | TestData\GoldStandard\VC11.dcm.caries.json |
| TestData\Images\VC26.dcm | TestData\GoldStandard\VC26.dcm.caries.json |
| TestData\Images\VC28.dcm | TestData\GoldStandard\VC28.dcm.caries.json |
| TestData\Images\VC35.dcm | TestData\GoldStandard\VC35.dcm.caries.json |
| TestData\Images\VC45.dcm | TestData\GoldStandard\VC45.dcm.caries.json |
| TestData\Images\VC60.dcm | TestData\GoldStandard\VC60.dcm.caries.json |
| TestData\Images\VC87.dcm | TestData\GoldStandard\VC87.dcm.caries.json |
| TestData\Images\VC99.dcm | TestData\GoldStandard\VC99.dcm.caries.json |
| TestData\Images\VC106.dcm | TestData\GoldStandard\VC106.dcm.caries.json |
| TestData\Images\VC113.dcm | TestData\GoldStandard\VC113.dcm.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

## PerformanceEvaluation-AK

*(Tags: @NFR002-1, @UR003)*

**When**  I evaluate the images using the caries service

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\AK2.dcm | TestData\GoldStandard\AK2.dcm.caries.json |
| TestData\Images\AK48.dcm | TestData\GoldStandard\AK48.dcm.caries.json |
| TestData\Images\AK51.dcm | TestData\GoldStandard\AK51.dcm.caries.json |
| TestData\Images\AK77.dcm | TestData\GoldStandard\AK77.dcm.caries.json |
| TestData\Images\AK82.dcm | TestData\GoldStandard\AK82.dcm.caries.json |
| TestData\Images\AK84.dcm | TestData\GoldStandard\AK84.dcm.caries.json |
| TestData\Images\AK88.dcm | TestData\GoldStandard\AK88.dcm.caries.json |
| TestData\Images\AK89.dcm | TestData\GoldStandard\AK89.dcm.caries.json |
| TestData\Images\AK102.dcm | TestData\GoldStandard\AK102.dcm.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

## PerformanceEvaluation-SetB

*(Tags: @NFR002-1, @UR003)*

**Given**  I am logged in with analysis permissions

**When**  I evaluate the images

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\image21.tif | TestData\GoldStandard\image21.tif.caries.json |
| TestData\Images\image26.tif | TestData\GoldStandard\image26.tif.caries.json |
| TestData\Images\image33.tif | TestData\GoldStandard\image33.tif.caries.json |
| TestData\Images\image37.tif | TestData\GoldStandard\image37.tif.caries.json |
| TestData\Images\image55.tif | TestData\GoldStandard\image55.tif.caries.json |
| TestData\Images\image56.tif | TestData\GoldStandard\image56.tif.caries.json |
| TestData\Images\image60.tif | TestData\GoldStandard\image60.tif.caries.json |
| TestData\Images\image84.tif | TestData\GoldStandard\image84.tif.caries.json |
| TestData\Images\image105.tif | TestData\GoldStandard\image105.tif.caries.json |
| TestData\Images\image127.tif | TestData\GoldStandard\image127.tif.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

## PerformanceEvaluationCariesService

*(Tags: @NFR002-1, @UR003)*

**When**  I evaluate the images using the caries service

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\CR26.tif | TestData\GoldStandard\CR26.dcm.caries.json |
| TestData\Images\CR33.tif | TestData\GoldStandard\CR33.dcm.caries.json |
| TestData\Images\CR44.tif | TestData\GoldStandard\CR44.dcm.caries.json |
| TestData\Images\CR83.tif | TestData\GoldStandard\CR83.dcm.caries.json |
| TestData\Images\CR98.tif | TestData\GoldStandard\CR98.dcm.caries.json |
| TestData\Images\CR108.tif | TestData\GoldStandard\CR108.dcm.caries.json |
| TestData\Images\CR117.tif | TestData\GoldStandard\CR117.dcm.caries.json |
| TestData\Images\CR128.tif | TestData\GoldStandard\CR128.dcm.caries.json |
| TestData\Images\CR138.tif | TestData\GoldStandard\CR138.dcm.caries.json |
| TestData\Images\CR139.tif | TestData\GoldStandard\CR139.dcm.caries.json |
| TestData\Images\CR145.tif | TestData\GoldStandard\CR145.dcm.caries.json |
| TestData\Images\VC11.tif | TestData\GoldStandard\VC11.dcm.caries.json |
| TestData\Images\VC26.tif | TestData\GoldStandard\VC26.dcm.caries.json |
| TestData\Images\VC28.tif | TestData\GoldStandard\VC28.dcm.caries.json |
| TestData\Images\VC35.tif | TestData\GoldStandard\VC35.dcm.caries.json |
| TestData\Images\VC45.tif | TestData\GoldStandard\VC45.dcm.caries.json |
| TestData\Images\VC60.tif | TestData\GoldStandard\VC60.dcm.caries.json |
| TestData\Images\VC87.tif | TestData\GoldStandard\VC87.dcm.caries.json |
| TestData\Images\VC99.tif | TestData\GoldStandard\VC99.dcm.caries.json |
| TestData\Images\VC106.tif | TestData\GoldStandard\VC106.dcm.caries.json |
| TestData\Images\VC113.tif | TestData\GoldStandard\VC113.dcm.caries.json |
| TestData\Images\AK2.tif | TestData\GoldStandard\AK2.dcm.caries.json |
| TestData\Images\AK48.tif | TestData\GoldStandard\AK48.dcm.caries.json |
| TestData\Images\AK51.tif | TestData\GoldStandard\AK51.dcm.caries.json |
| TestData\Images\AK77.tif | TestData\GoldStandard\AK77.dcm.caries.json |
| TestData\Images\AK82.tif | TestData\GoldStandard\AK82.dcm.caries.json |
| TestData\Images\AK84.tif | TestData\GoldStandard\AK84.dcm.caries.json |
| TestData\Images\AK88.tif | TestData\GoldStandard\AK88.dcm.caries.json |
| TestData\Images\AK89.tif | TestData\GoldStandard\AK89.dcm.caries.json |
| TestData\Images\AK102.tif | TestData\GoldStandard\AK102.dcm.caries.json |
| TestData\Images\SC22.tif | TestData\GoldStandard\SC22.tif.caries.json |
| TestData\Images\SC28.tif | TestData\GoldStandard\SC28.tif.caries.json |
| TestData\Images\SC56.tif | TestData\GoldStandard\SC56.tif.caries.json |
| TestData\Images\SC64.tif | TestData\GoldStandard\SC64.tif.caries.json |
| TestData\Images\SC75.tif | TestData\GoldStandard\SC75.tif.caries.json |
| TestData\Images\SC85.tif | TestData\GoldStandard\SC85.tif.caries.json |
| TestData\Images\SC94.tif | TestData\GoldStandard\SC94.tif.caries.json |
| TestData\Images\ML29.tif | TestData\GoldStandard\ML29.tif.caries.json |
| TestData\Images\ML45.tif | TestData\GoldStandard\ML45.tif.caries.json |
| TestData\Images\ML51.tif | TestData\GoldStandard\ML51.tif.caries.json |
| TestData\Images\ML83.tif | TestData\GoldStandard\ML83.tif.caries.json |
| TestData\Images\ML89.tif | TestData\GoldStandard\ML89.tif.caries.json |
| TestData\Images\ML95.tif | TestData\GoldStandard\ML95.tif.caries.json |
| TestData\Images\ML102.tif | TestData\GoldStandard\ML102.tif.caries.json |
| TestData\Images\ML123.tif | TestData\GoldStandard\ML123.tif.caries.json |
| TestData\Images\ML128.tif | TestData\GoldStandard\ML128.tif.caries.json |
| TestData\Images\ML135.tif | TestData\GoldStandard\ML135.tif.caries.json |
| TestData\Images\RC8.tif | TestData\GoldStandard\RC8.tif.caries.json |
| TestData\Images\RC36.tif | TestData\GoldStandard\RC36.tif.caries.json |
| TestData\Images\RC43.tif | TestData\GoldStandard\RC43.tif.caries.json |
| TestData\Images\RC51.tif | TestData\GoldStandard\RC51.tif.caries.json |
| TestData\Images\RC56.tif | TestData\GoldStandard\RC56.tif.caries.json |
| TestData\Images\RC64.tif | TestData\GoldStandard\RC64.tif.caries.json |
| TestData\Images\RC79.tif | TestData\GoldStandard\RC79.tif.caries.json |
| TestData\Images\RC104.tif | TestData\GoldStandard\RC104.tif.caries.json |
| TestData\Images\RC108.tif | TestData\GoldStandard\RC108.tif.caries.json |
| TestData\Images\RC133.tif | TestData\GoldStandard\RC133.tif.caries.json |
| TestData\Images\RC136.tif | TestData\GoldStandard\RC136.tif.caries.json |
| TestData\Images\TS4.tif | TestData\GoldStandard\TS4.tif.caries.json |
| TestData\Images\TS19.tif | TestData\GoldStandard\TS19.tif.caries.json |
| TestData\Images\TS21.tif | TestData\GoldStandard\TS21.tif.caries.json |
| TestData\Images\TS45.tif | TestData\GoldStandard\TS45.tif.caries.json |
| TestData\Images\TS50.tif | TestData\GoldStandard\TS50.tif.caries.json |
| TestData\Images\TS75.tif | TestData\GoldStandard\TS75.tif.caries.json |
| TestData\Images\TS91.tif | TestData\GoldStandard\TS91.tif.caries.json |
| TestData\Images\TS95.tif | TestData\GoldStandard\TS95.tif.caries.json |
| TestData\Images\TS129.tif | TestData\GoldStandard\TS129.tif.caries.json |
| TestData\Images\TS146.tif | TestData\GoldStandard\TS146.tif.caries.json |
| TestData\Images\TS152.tif | TestData\GoldStandard\TS152.tif.caries.json |
| TestData\Images\TS212.tif | TestData\GoldStandard\TS212.tif.caries.json |
| TestData\Images\TS213.tif | TestData\GoldStandard\TS213.tif.caries.json |
| TestData\Images\TS217.tif | TestData\GoldStandard\TS217.tif.caries.json |
| TestData\Images\TS223.tif | TestData\GoldStandard\TS223.tif.caries.json |
| TestData\Images\TS230.tif | TestData\GoldStandard\TS230.tif.caries.json |
| TestData\Images\TS236.tif | TestData\GoldStandard\TS236.tif.caries.json |
| TestData\Images\TS237.tif | TestData\GoldStandard\TS237.tif.caries.json |
| TestData\Images\TS296.tif | TestData\GoldStandard\TS296.tif.caries.json |
| TestData\Images\TS299.tif | TestData\GoldStandard\TS299.tif.caries.json |
| TestData\Images\TS305.tif | TestData\GoldStandard\TS305.tif.caries.json |
| TestData\Images\TS313.tif | TestData\GoldStandard\TS313.tif.caries.json |
| TestData\Images\JD16.tif | TestData\GoldStandard\JD16.tif.caries.json |
| TestData\Images\JD43.tif | TestData\GoldStandard\JD43.tif.caries.json |
| TestData\Images\JD73.tif | TestData\GoldStandard\JD73.tif.caries.json |
| TestData\Images\JD91.tif | TestData\GoldStandard\JD91.tif.caries.json |
| TestData\Images\JD98.tif | TestData\GoldStandard\JD98.tif.caries.json |
| TestData\Images\JD107.tif | TestData\GoldStandard\JD107.tif.caries.json |
| TestData\Images\JD131.tif | TestData\GoldStandard\JD131.tif.caries.json |
| TestData\Images\JD142.tif | TestData\GoldStandard\JD142.tif.caries.json |
| TestData\Images\JD143.tif | TestData\GoldStandard\JD143.tif.caries.json |
| TestData\Images\image21.tif | TestData\GoldStandard\image21.tif.caries.json |
| TestData\Images\image26.tif | TestData\GoldStandard\image26.tif.caries.json |
| TestData\Images\image33.tif | TestData\GoldStandard\image33.tif.caries.json |
| TestData\Images\image37.tif | TestData\GoldStandard\image37.tif.caries.json |
| TestData\Images\image55.tif | TestData\GoldStandard\image55.tif.caries.json |
| TestData\Images\image56.tif | TestData\GoldStandard\image56.tif.caries.json |
| TestData\Images\image60.tif | TestData\GoldStandard\image60.tif.caries.json |
| TestData\Images\image84.tif | TestData\GoldStandard\image84.tif.caries.json |
| TestData\Images\image105.tif | TestData\GoldStandard\image105.tif.caries.json |
| TestData\Images\image127.tif | TestData\GoldStandard\image127.tif.caries.json |

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**And**  I grade false positives

**Then**  the {SensitivityD1D2} is at least 0.724

**And**  the {SensitivityD3D4} is at least 0.57

**And**  the {FPsPerImage} is at most 1.85

**And**  the {Precision} is at least 0.426

## PerformanceEvaluationCariesServiceThresholdSweep

*(Tags: @NFR002-1, @UR003)*

**Given**  I set the caries threshold to <threshold>

**When**  I evaluate the images using the caries service

|  |  |
| --- | --- |
| image | goldstandard |
| TestData\Images\CR26.tif | TestData\GoldStandard\CR26.dcm.caries.json |
| TestData\Images\CR33.tif | TestData\GoldStandard\CR33.dcm.caries.json |
| TestData\Images\CR44.tif | TestData\GoldStandard\CR44.dcm.caries.json |
| TestData\Images\CR83.tif | TestData\GoldStandard\CR83.dcm.caries.json |
| TestData\Images\CR98.tif | TestData\GoldStandard\CR98.dcm.caries.json |
| TestData\Images\CR108.tif | TestData\GoldStandard\CR108.dcm.caries.json |
| TestData\Images\CR117.tif | TestData\GoldStandard\CR117.dcm.caries.json |
| TestData\Images\CR128.tif | TestData\GoldStandard\CR128.dcm.caries.json |
| TestData\Images\CR138.tif | TestData\GoldStandard\CR138.dcm.caries.json |
| TestData\Images\CR139.tif | TestData\GoldStandard\CR139.dcm.caries.json |
| TestData\Images\CR145.tif | TestData\GoldStandard\CR145.dcm.caries.json |
| TestData\Images\VC11.tif | TestData\GoldStandard\VC11.dcm.caries.json |
| TestData\Images\VC26.tif | TestData\GoldStandard\VC26.dcm.caries.json |
| TestData\Images\VC28.tif | TestData\GoldStandard\VC28.dcm.caries.json |
| TestData\Images\VC35.tif | TestData\GoldStandard\VC35.dcm.caries.json |
| TestData\Images\VC45.tif | TestData\GoldStandard\VC45.dcm.caries.json |
| TestData\Images\VC60.tif | TestData\GoldStandard\VC60.dcm.caries.json |
| TestData\Images\VC87.tif | TestData\GoldStandard\VC87.dcm.caries.json |
| TestData\Images\VC99.tif | TestData\GoldStandard\VC99.dcm.caries.json |
| TestData\Images\VC106.tif | TestData\GoldStandard\VC106.dcm.caries.json |
| TestData\Images\VC113.tif | TestData\GoldStandard\VC113.dcm.caries.json |
| TestData\Images\AK2.tif | TestData\GoldStandard\AK2.dcm.caries.json |
| TestData\Images\AK48.tif | TestData\GoldStandard\AK48.dcm.caries.json |
| TestData\Images\AK51.tif | TestData\GoldStandard\AK51.dcm.caries.json |
| TestData\Images\AK77.tif | TestData\GoldStandard\AK77.dcm.caries.json |
| TestData\Images\AK82.tif | TestData\GoldStandard\AK82.dcm.caries.json |
| TestData\Images\AK84.tif | TestData\GoldStandard\AK84.dcm.caries.json |
| TestData\Images\AK88.tif | TestData\GoldStandard\AK88.dcm.caries.json |
| TestData\Images\AK89.tif | TestData\GoldStandard\AK89.dcm.caries.json |
| TestData\Images\AK102.tif | TestData\GoldStandard\AK102.dcm.caries.json |
| TestData\Images\SC22.tif | TestData\GoldStandard\SC22.tif.caries.json |
| TestData\Images\SC28.tif | TestData\GoldStandard\SC28.tif.caries.json |
| TestData\Images\SC56.tif | TestData\GoldStandard\SC56.tif.caries.json |
| TestData\Images\SC64.tif | TestData\GoldStandard\SC64.tif.caries.json |
| TestData\Images\SC75.tif | TestData\GoldStandard\SC75.tif.caries.json |
| TestData\Images\SC85.tif | TestData\GoldStandard\SC85.tif.caries.json |
| TestData\Images\SC94.tif | TestData\GoldStandard\SC94.tif.caries.json |
| TestData\Images\ML29.tif | TestData\GoldStandard\ML29.tif.caries.json |
| TestData\Images\ML45.tif | TestData\GoldStandard\ML45.tif.caries.json |
| TestData\Images\ML51.tif | TestData\GoldStandard\ML51.tif.caries.json |
| TestData\Images\ML83.tif | TestData\GoldStandard\ML83.tif.caries.json |
| TestData\Images\ML89.tif | TestData\GoldStandard\ML89.tif.caries.json |
| TestData\Images\ML95.tif | TestData\GoldStandard\ML95.tif.caries.json |
| TestData\Images\ML102.tif | TestData\GoldStandard\ML102.tif.caries.json |
| TestData\Images\ML123.tif | TestData\GoldStandard\ML123.tif.caries.json |
| TestData\Images\ML128.tif | TestData\GoldStandard\ML128.tif.caries.json |
| TestData\Images\ML135.tif | TestData\GoldStandard\ML135.tif.caries.json |
| TestData\Images\RC8.tif | TestData\GoldStandard\RC8.tif.caries.json |
| TestData\Images\RC36.tif | TestData\GoldStandard\RC36.tif.caries.json |
| TestData\Images\RC43.tif | TestData\GoldStandard\RC43.tif.caries.json |
| TestData\Images\RC51.tif | TestData\GoldStandard\RC51.tif.caries.json |
| TestData\Images\RC56.tif | TestData\GoldStandard\RC56.tif.caries.json |
| TestData\Images\RC64.tif | TestData\GoldStandard\RC64.tif.caries.json |
| TestData\Images\RC79.tif | TestData\GoldStandard\RC79.tif.caries.json |
| TestData\Images\RC104.tif | TestData\GoldStandard\RC104.tif.caries.json |
| TestData\Images\RC108.tif | TestData\GoldStandard\RC108.tif.caries.json |
| TestData\Images\RC133.tif | TestData\GoldStandard\RC133.tif.caries.json |
| TestData\Images\RC136.tif | TestData\GoldStandard\RC136.tif.caries.json |
| TestData\Images\TS4.tif | TestData\GoldStandard\TS4.tif.caries.json |
| TestData\Images\TS19.tif | TestData\GoldStandard\TS19.tif.caries.json |
| TestData\Images\TS21.tif | TestData\GoldStandard\TS21.tif.caries.json |
| TestData\Images\TS45.tif | TestData\GoldStandard\TS45.tif.caries.json |
| TestData\Images\TS50.tif | TestData\GoldStandard\TS50.tif.caries.json |
| TestData\Images\TS75.tif | TestData\GoldStandard\TS75.tif.caries.json |
| TestData\Images\TS91.tif | TestData\GoldStandard\TS91.tif.caries.json |
| TestData\Images\TS95.tif | TestData\GoldStandard\TS95.tif.caries.json |
| TestData\Images\TS129.tif | TestData\GoldStandard\TS129.tif.caries.json |
| TestData\Images\TS146.tif | TestData\GoldStandard\TS146.tif.caries.json |
| TestData\Images\TS152.tif | TestData\GoldStandard\TS152.tif.caries.json |
| TestData\Images\TS212.tif | TestData\GoldStandard\TS212.tif.caries.json |
| TestData\Images\TS213.tif | TestData\GoldStandard\TS213.tif.caries.json |
| TestData\Images\TS217.tif | TestData\GoldStandard\TS217.tif.caries.json |
| TestData\Images\TS223.tif | TestData\GoldStandard\TS223.tif.caries.json |
| TestData\Images\TS230.tif | TestData\GoldStandard\TS230.tif.caries.json |
| TestData\Images\TS236.tif | TestData\GoldStandard\TS236.tif.caries.json |
| TestData\Images\TS237.tif | TestData\GoldStandard\TS237.tif.caries.json |
| TestData\Images\TS296.tif | TestData\GoldStandard\TS296.tif.caries.json |
| TestData\Images\TS299.tif | TestData\GoldStandard\TS299.tif.caries.json |
| TestData\Images\TS305.tif | TestData\GoldStandard\TS305.tif.caries.json |
| TestData\Images\TS313.tif | TestData\GoldStandard\TS313.tif.caries.json |
| TestData\Images\JD16.tif | TestData\GoldStandard\JD16.tif.caries.json |
| TestData\Images\JD43.tif | TestData\GoldStandard\JD43.tif.caries.json |
| TestData\Images\JD73.tif | TestData\GoldStandard\JD73.tif.caries.json |
| TestData\Images\JD91.tif | TestData\GoldStandard\JD91.tif.caries.json |
| TestData\Images\JD98.tif | TestData\GoldStandard\JD98.tif.caries.json |
| TestData\Images\JD107.tif | TestData\GoldStandard\JD107.tif.caries.json |
| TestData\Images\JD131.tif | TestData\GoldStandard\JD131.tif.caries.json |
| TestData\Images\JD142.tif | TestData\GoldStandard\JD142.tif.caries.json |
| TestData\Images\JD143.tif | TestData\GoldStandard\JD143.tif.caries.json |
| TestData\Images\image21.tif | TestData\GoldStandard\image21.tif.caries.json |
| TestData\Images\image26.tif | TestData\GoldStandard\image26.tif.caries.json |
| TestData\Images\image33.tif | TestData\GoldStandard\image33.tif.caries.json |
| TestData\Images\image37.tif | TestData\GoldStandard\image37.tif.caries.json |
| TestData\Images\image55.tif | TestData\GoldStandard\image55.tif.caries.json |
| TestData\Images\image56.tif | TestData\GoldStandard\image56.tif.caries.json |
| TestData\Images\image60.tif | TestData\GoldStandard\image60.tif.caries.json |
| TestData\Images\image84.tif | TestData\GoldStandard\image84.tif.caries.json |
| TestData\Images\image105.tif | TestData\GoldStandard\image105.tif.caries.json |
| TestData\Images\image127.tif | TestData\GoldStandard\image127.tif.caries.json |

**And**  I compute the {SensitivityD1D2} as sum(TPD1D2) / sum(GSD1D2)

**And**  I compute the {SensitivityD3D4} as sum(TPD3D4) / sum(GSD3D4)

**And**  I compute the {Sensitivity} as sum(TP) / sum(GS)

**And**  I compute the {FPPerImage} as mean(FP)

**And**  I compute the {Precision} as sum(TP) / sum(Detections)

**And**  I generate a confusion matrix

**Then**  the {SensitivityD1D2} is at least 0.724

**And**  the {SensitivityD3D4} is at least 0.57

**And**  the {FPsPerImage} is at most 1.85

**And**  the {Precision} is at least 0.426

### Examples:

|  |
| --- |
| threshold |
| 0.0 |
| 0.5 |
| 0.7 |
| 0.8 |
| 0.95 |
| 0.985 |
| 0.99 |
| 0.9925 |
| 0.995 |
| 0.9975 |
| 0.9985 |
| 0.999 |
| 0.9995 |
| 0.9999 |

# DesktopUsageMetrics

*(Tags: @NFR, @NFR004, @UR032, @Admin, @DesktopOnly)*

## RecordNumberOfUses

*(Tags: @NFR004-1, @UR032-1)*

**Given**  AssistDent has been installed

**And**  registered and used at least once

**When**  I examine the data objects of any given user's licence

**Then**  I can see the number of uses is recorded for that user

## RecordDateLastUsed

*(Tags: @NFR004-2, @UR032-2)*

**Given**  AssistDent has been installed

**And**  registered and used at least once

**When**  I examine the data objects of any given user's licence

**Then**  I can see the date on which the user last used AssistDent

# EncryptTraffic

*(Tags: @NFR, @NFR001, @UR011, @Security, @WebOnly)*

## WebsiteUsesSSL

*(Tags: @NFR001-1, @UR011-2)*

**Given**  I access the AssistDent web site

**When**  I view the site security information

**Then**  the security indicator reveals SSL

## AllPagesSecured

*(Tags: @NFR001-2, @UR011-2)*

**Given**  I enable network traffic view in developer tools

**When**  I access each main page of the AssistDent web site

**Then**  the request are submitted using https

**And**  the responses returned are received using https

## AnalysisSecured

*(Tags: @NFR001-3, @UR011-2)*

**Given**  I enable network traffic view in developer tools

**When**  I submit an image

**Then**  the request is submitted using https

**And**  the response returned is received using https

# SupportedPlatform

*(Tags: @NFR, @NFR004, @UR032, @Admin)*

## Windows10

*(Tags: @NFR005-1, @UR003-1)*

**Given**  I have a Windows 10 PC

**When**  I install AssistDent

**Then**  it installs correctly

**And**  I can detect caries in bitewing images

## Windows11

*(Tags: @NFR005-2, @UR003-1)*

**Given**  I have a Windows 11 PC

**When**  I install AssistDent

**Then**  it installs correctly

**And**  I can detect caries in bitewing images

## 64-bit

*(Tags: @NFR005-3, @UR003-1)*

**Given**  I have a Windows PC

**When**  I install AssistDent

**Then**  it installs as a 64-bit application

**And**  I can detect caries in bitewing images

# UserData

*(Tags: @NFR, @NFR003, @UR018, @Security)*

## CustomerDataStoredSecurely

*(Tags: @NFR003-1, @DesktopOnly)*

**Given**  I have customers

**Then**  other than on the local computer, customer details are stored securely and exclusively on CryptoLens and Stripe