## Customer Requirements Speciﬁcation

**SAG CRS ML FaceRecog ــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــــ**

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# Document Status:

|  |  |  |
| --- | --- | --- |
| **Name** | Po\_SAG\_CRS\_ML\_Face\_Recog | |
| **Version** | V1.2 | |
| **Status** | proposed | |
| **Author** | MEQ | |
| **Date** | [13-11-2022] | |
| **Team approval** | AA | Approved |
| **Mentor approval** |  |  |
| **Final approval** |  |  |

# Document History:

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| --- | --- | --- | --- |
| **Version** | **Author** | **Date** | **Change** |
| 1.0 | MEQ | [13-11-2022] | * Initial Creation * Add CRS Requirements |
| 1.1 | MEQ | [17-11-2022] | * Edit name of document * Edit initial name * Edit the definition * Edit the context diagram * Add require id |
| 1.2 | MEQ | [24-11-2022] | * Req\_SAG\_ML\_FaceRecog\_CRS\_Review\_001 -V1.1 * Req\_SAG\_ML\_FaceRecog\_CRS\_Review\_002 -V1.1 * Req\_SAG\_ML\_FaceRecog\_CRS\_Review\_003 -V1.1 * Req\_SAG\_ML\_FaceRecog\_CRS\_Review\_004 -V1.1 * Req\_SAG\_ML\_FaceRecog\_CRS\_Review\_005-V1.1 * Req\_SAG\_ML\_FaceRecog\_CRS\_Review006-V1.1 * Req\_SAG\_ML\_FaceRecog\_CRS\_Review\_007-V1.1 |

# Reference Document:

|  |  |  |  |
| --- | --- | --- | --- |
| **Ref.number** | **Doc.Name** | **Version** | **Status** |
| 1 | PO\_SAG\_CR\_ML | V1.2 | Released |

# Project Description:

## Definition:

## Face recognition is the process of taking a face in an image and identifying who the face belongs to. Face recognition is a form of person identification.

## Features:

* Face recognition

## Key Elements:

* The face recognition model shall recognize people determined by the user.

# Face Recognition System Context:

Diagram

Description automatically generated



## CRS Requirements:

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| --- | --- | --- | --- |
| **Req\_ID** | Req\_SAG\_ML\_FaceRecog\_CRS\_***001***-V1.1 | **Covers** | PO\_SAG\_CR\_ML\_005-V1.1 |
| **Description** | The Face\_Recog\_Class shall take the Input\_Frames to identify and cut the faces. | | |

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| **Req\_ID** | Req\_SAG\_ML\_FaceRecog\_CRS\_***002***-V1.2 | **Covers** | PO\_SAG\_CR\_ML\_005-V1.1 |
| **Description** | The Face\_Recog\_Class shall use the ResNet50 model to extract the features from edited Input\_Frames. | | |

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| **Req\_ID** | Req\_SAG\_ML\_FaceRecog\_CRS\_***003***-V1.2 | **Covers** | PO\_SAG\_CR\_ML\_005-V1.1 |
| **Description** | The Face\_Recog\_Class shall us the function of cosine similarity to compare between the feature that extracted and the faces in database. | | |

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| **Req\_ID** | Req\_SAG\_ML\_FaceRecog\_CRS\_***004***-V1.2 | **Covers** | PO\_SAG\_CR\_ML\_005-V1.1 |
| **Description** | The Face\_Recog\_Class shall recognize the face and outputs the Text\_Face\_Recog\_Result. | | |

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| **Req\_ID** | Req\_SAG\_ML\_FaceRecog\_CRS\_***005***-V1.2 | **Covers** | PO\_SAG\_CR\_ML\_005-V1.1 |
| **Description** | The Face\_Recog\_Class shall send the the Text\_Face\_Recog\_Result to the Formatter and get the Output\_Audio\_Files\_Face\_Recog . | | |

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| **Req\_ID** | Req\_SAG\_ML\_FaceRecog\_CRS\_***006***-V1.2 | **Covers** | PO\_SAG\_CR\_ML\_005-V1.1 |
| **Description** | The Face\_Recog\_Class shall return the Output\_Audio\_Files\_Face\_Recog to ECU. | | |