

# Deep Dive #1: Archives

## Uploading and managing test data

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Research Software Engineer @grand-challenge.org

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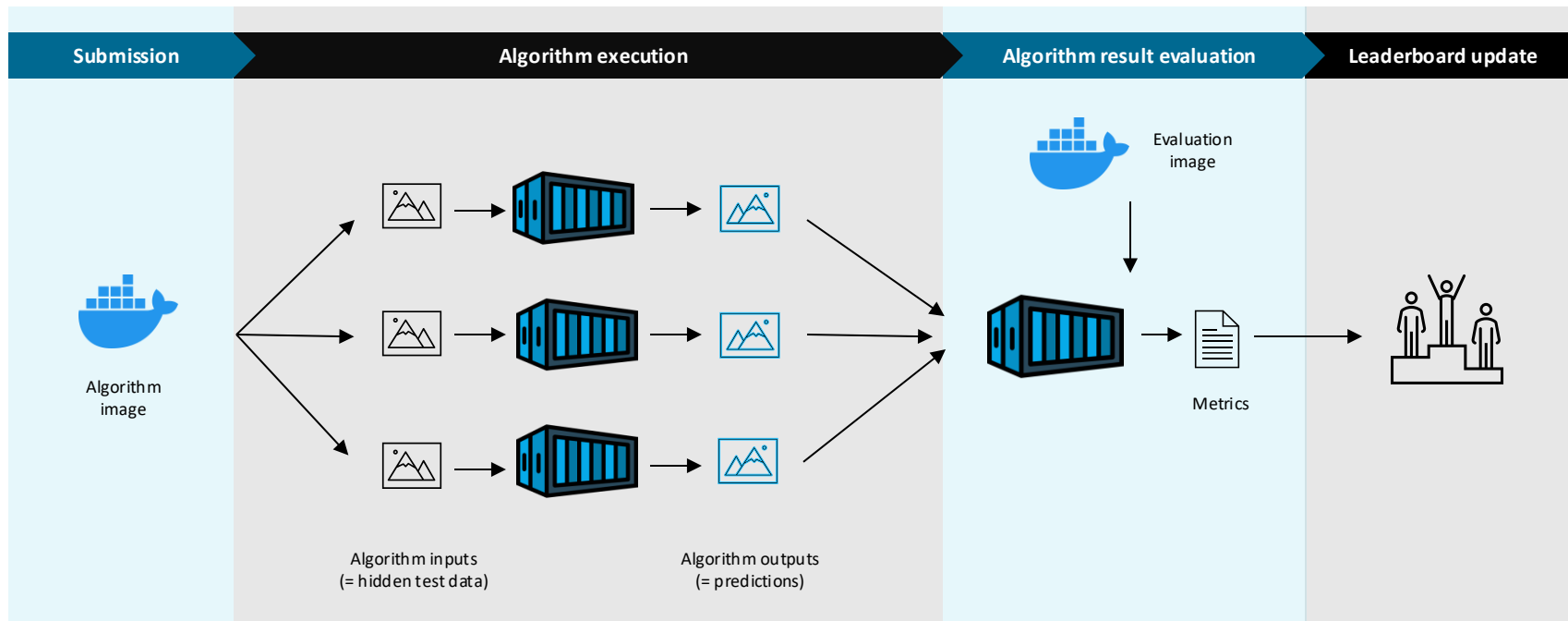
**Radboud**umc

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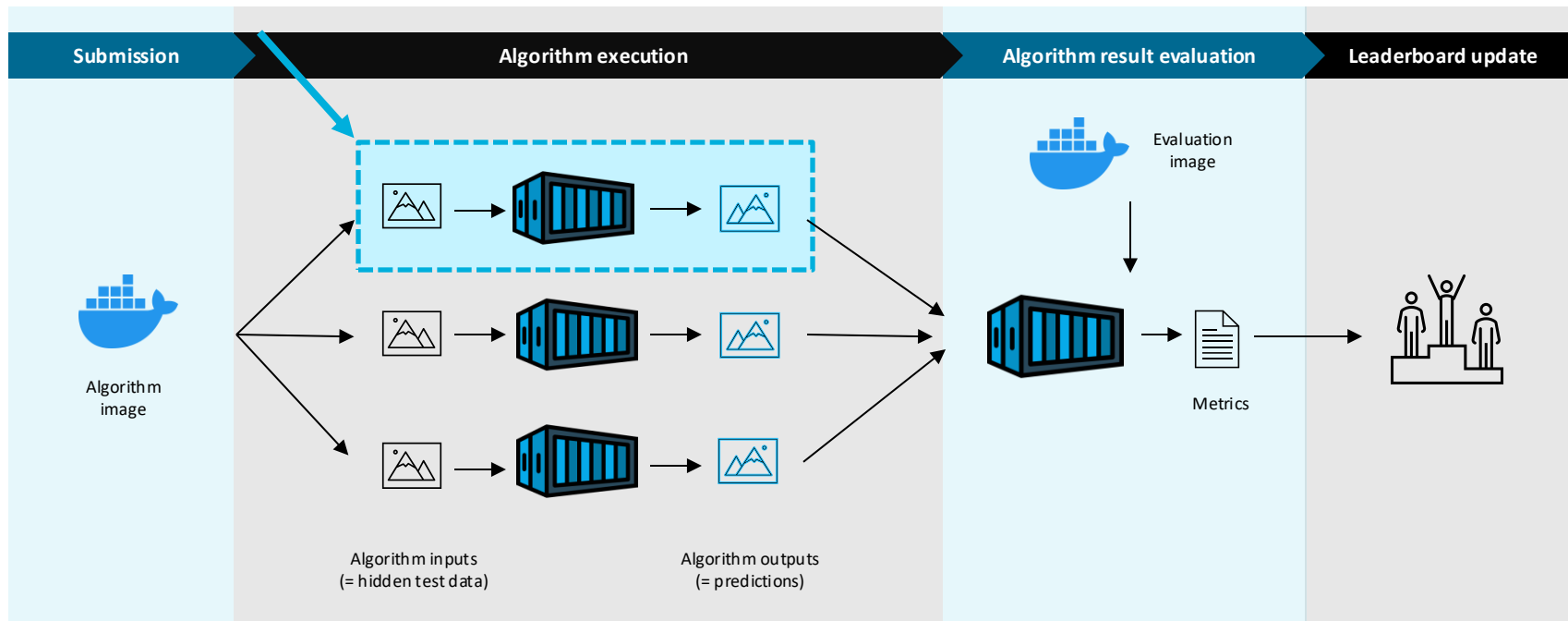
# Agenda

Time	Topic
10:30 – 11:00	Welcome and introduction to challenges on GC
11:00 - 11:45	Deep dive #1: uploading and managing hidden test data
11:45 - 13:00	Lunch Break
13:00 - 14:15	Deep dive #2: algorithm containers
14:15 - 14:30	Short Break
14:30 - 16:00	Deep dive #3: custom evaluation methods & leaderboard set-up
16:00 - 17:00	Wrap-up , Q&A

# Submission workflow

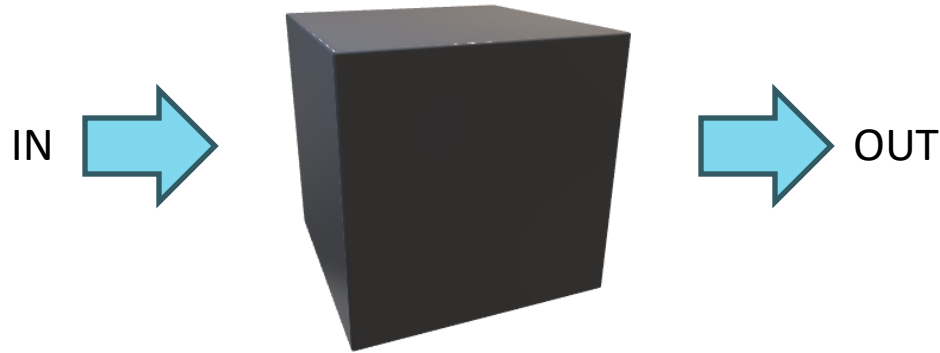


# Submission workflow



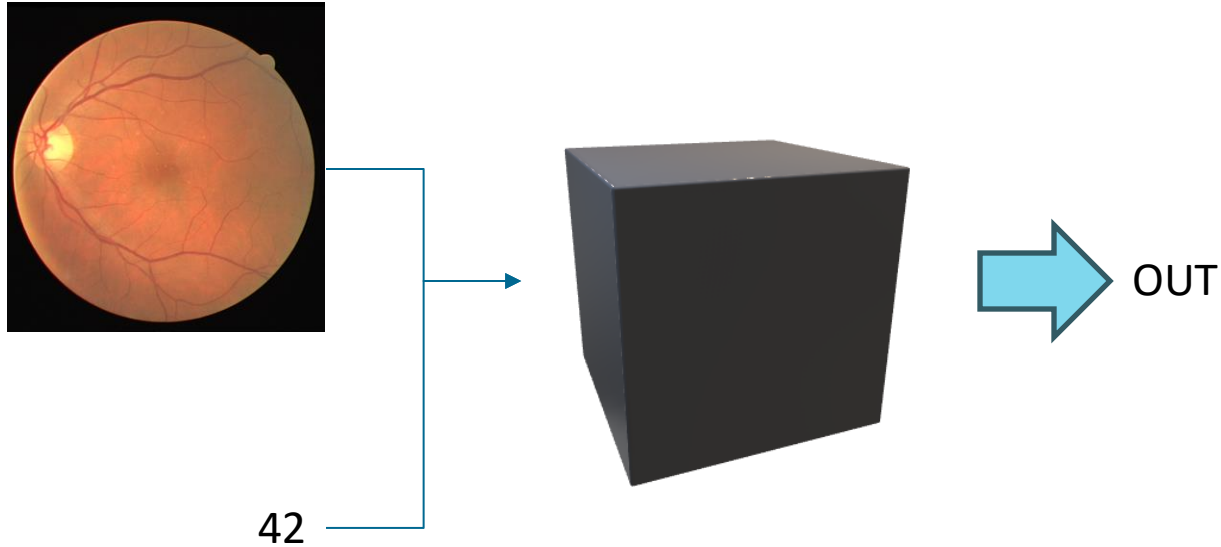
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# The Algorithm – a Black Box



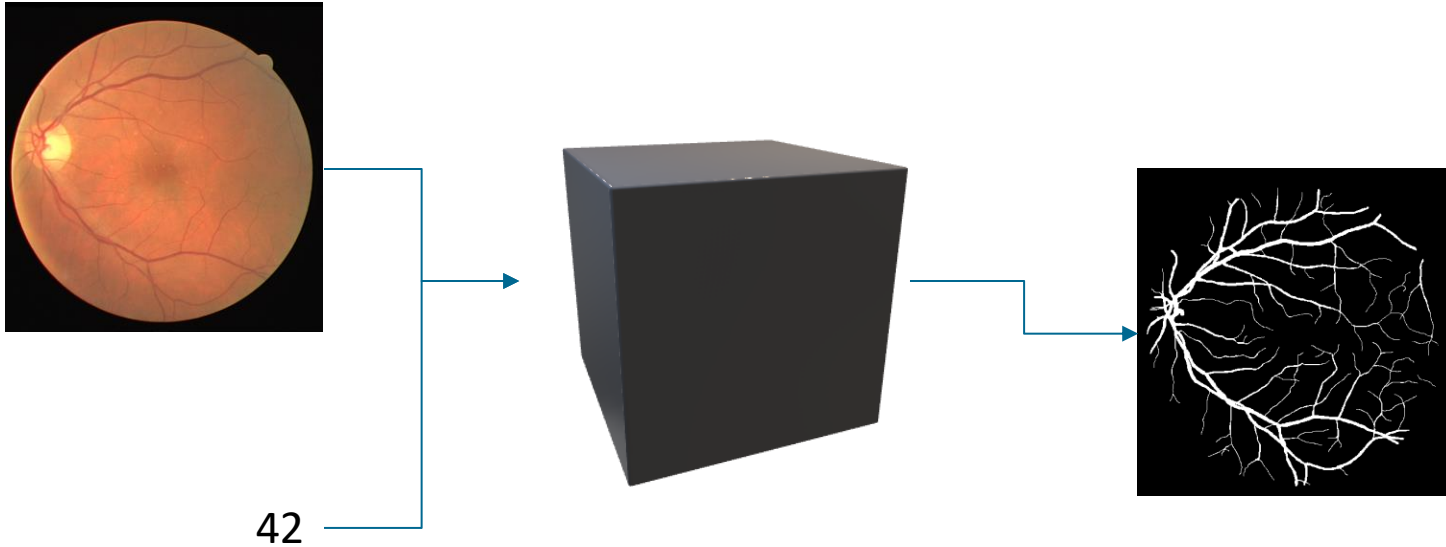
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# The Algorithm – Two Inputs

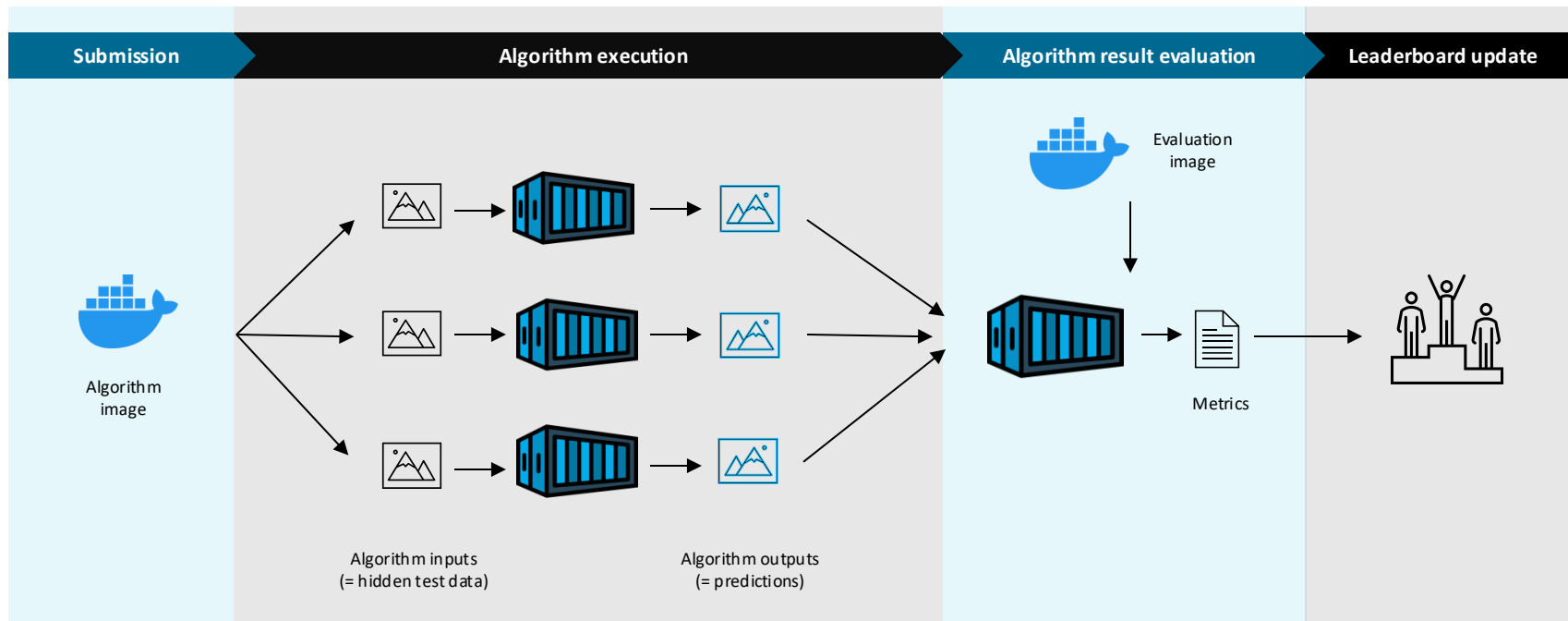


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# The Algorithm – One Output

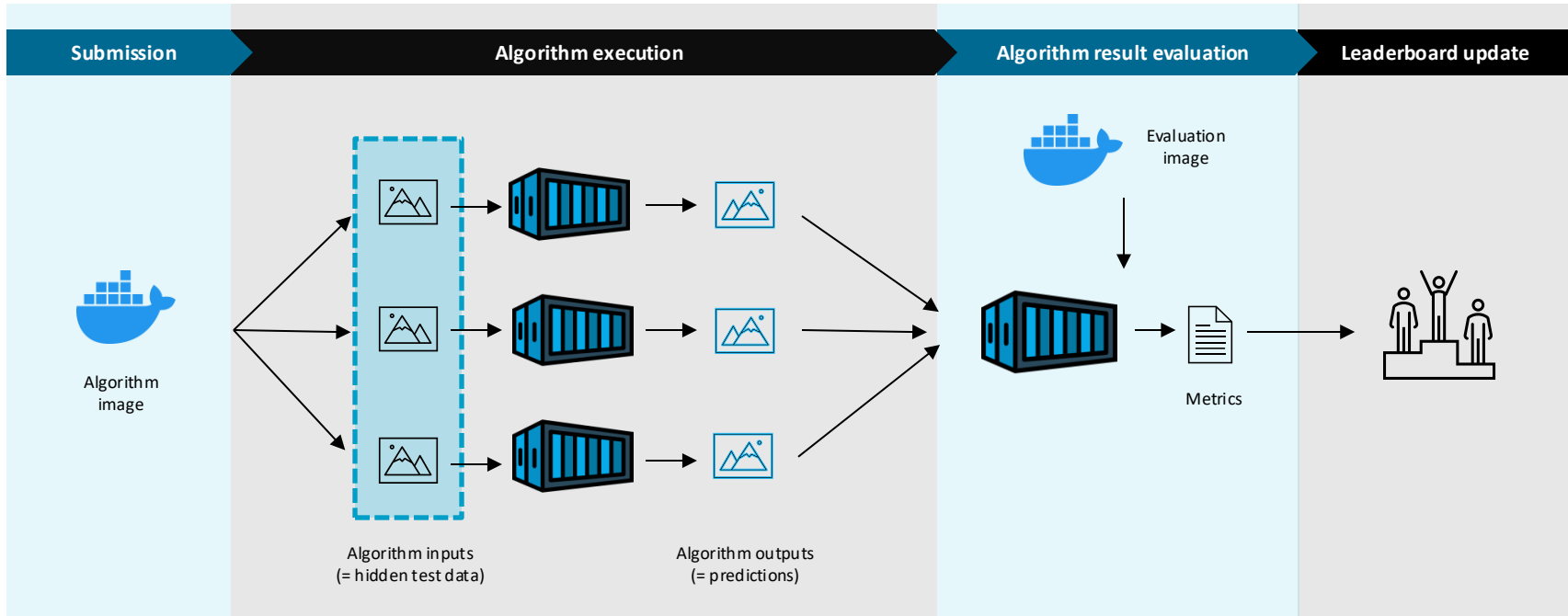


# Submission workflow





# Submission workflow – input storage



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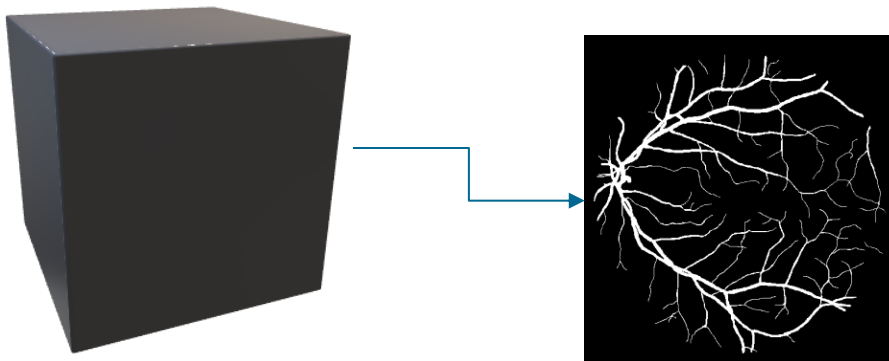
# What is an Archive?

- Stand-alone feature of Grand-Challenge
- Public / Private
- Archives store input data
  - Per challenge phase
  - As a set / per case ('Archive Item')



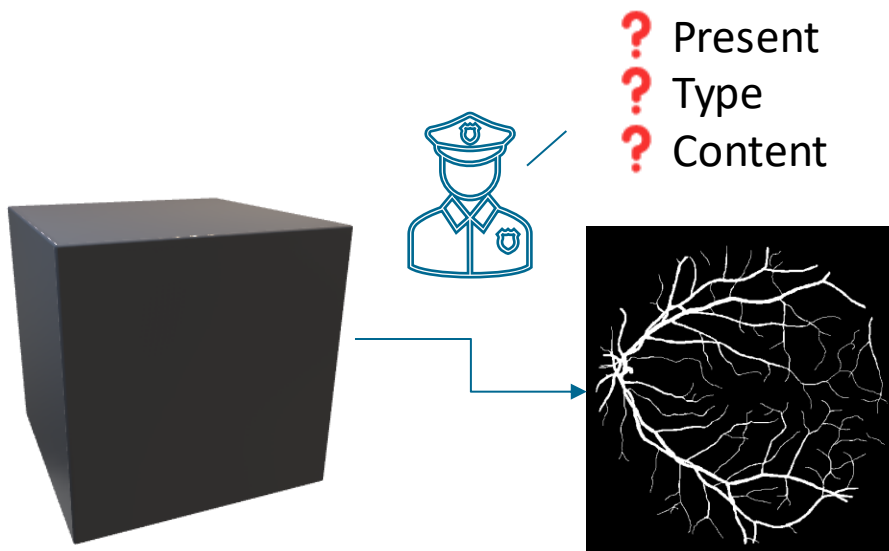
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# The Algorithm - Validation

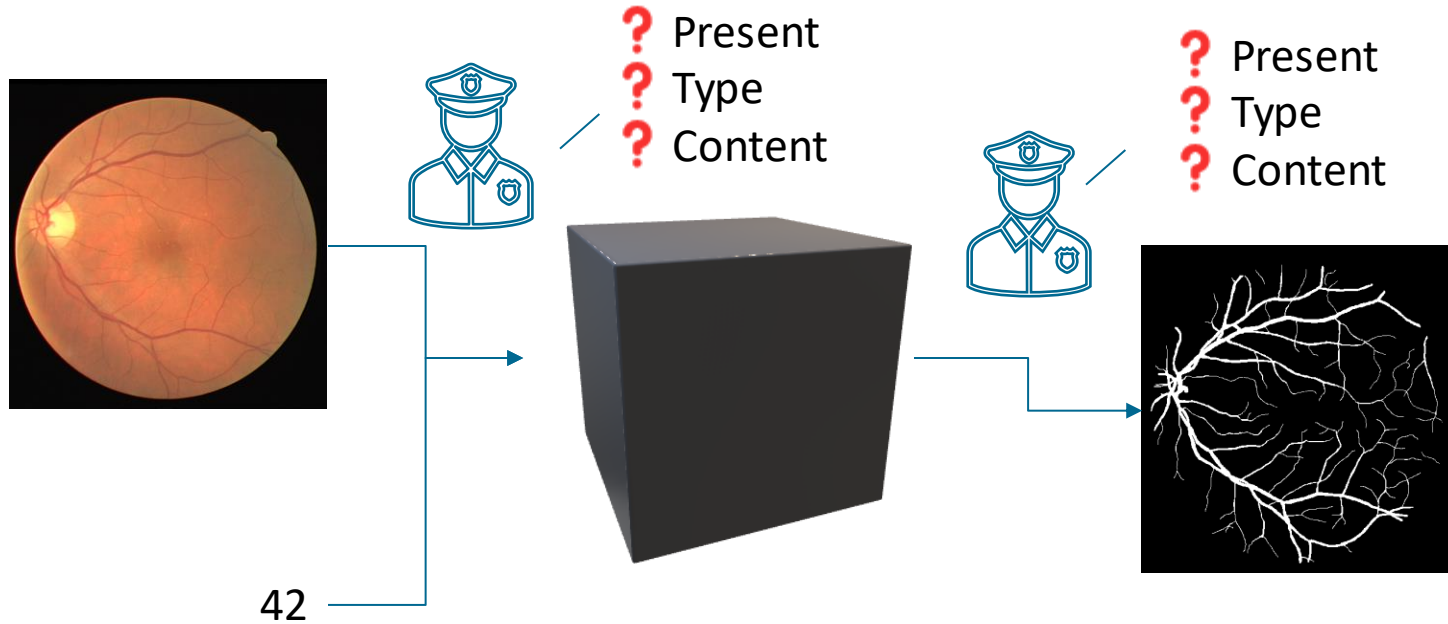


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# The Algorithm - Validation



# The Algorithm – Validation

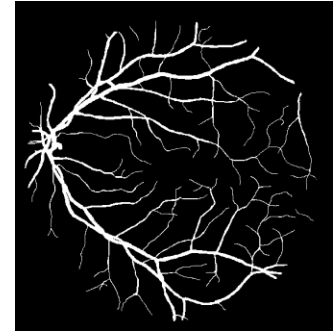


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# Inputs and Outputs: interfaces



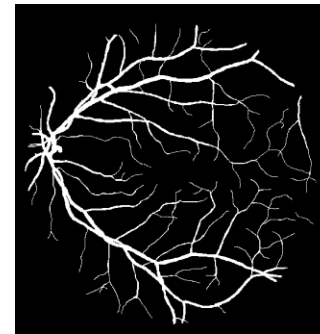
42



# Inputs and Outputs: interfaces



42



**color-fundus-image**

Image

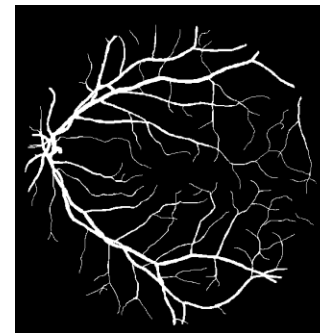
/input/images/color-fundus/\*

---

# Inputs and Outputs: interfaces



42



color-fundus-image	age-in-months
Image	Integer
/input/images/color-fundus/*	/input/age-in-months.json



# Inputs and Outputs: interfaces



-1



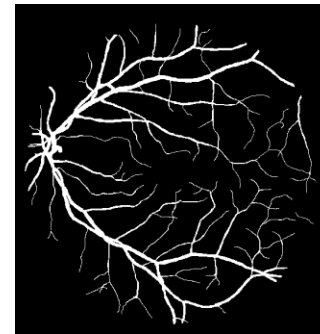
42



42.3



"Forty Two"



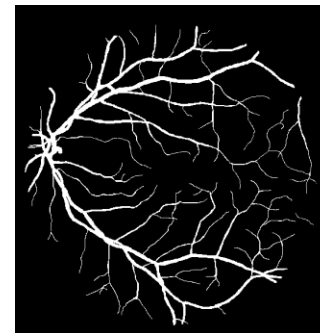
color-fundus-image	age-in-months
Image	Integer
/input/images/color-fundus/*	/input/age-in-months.json

---

# Inputs and Outputs: interfaces



42



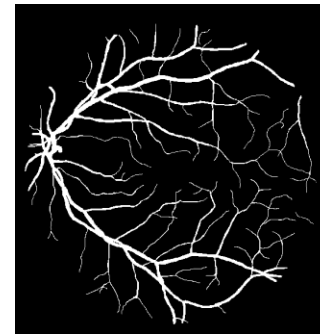
color-fundus-image	age-in-months
Image	Integer
/input/images/color-fundus/*	/input/age-in-months.json

---

# Inputs and Outputs: interfaces



42



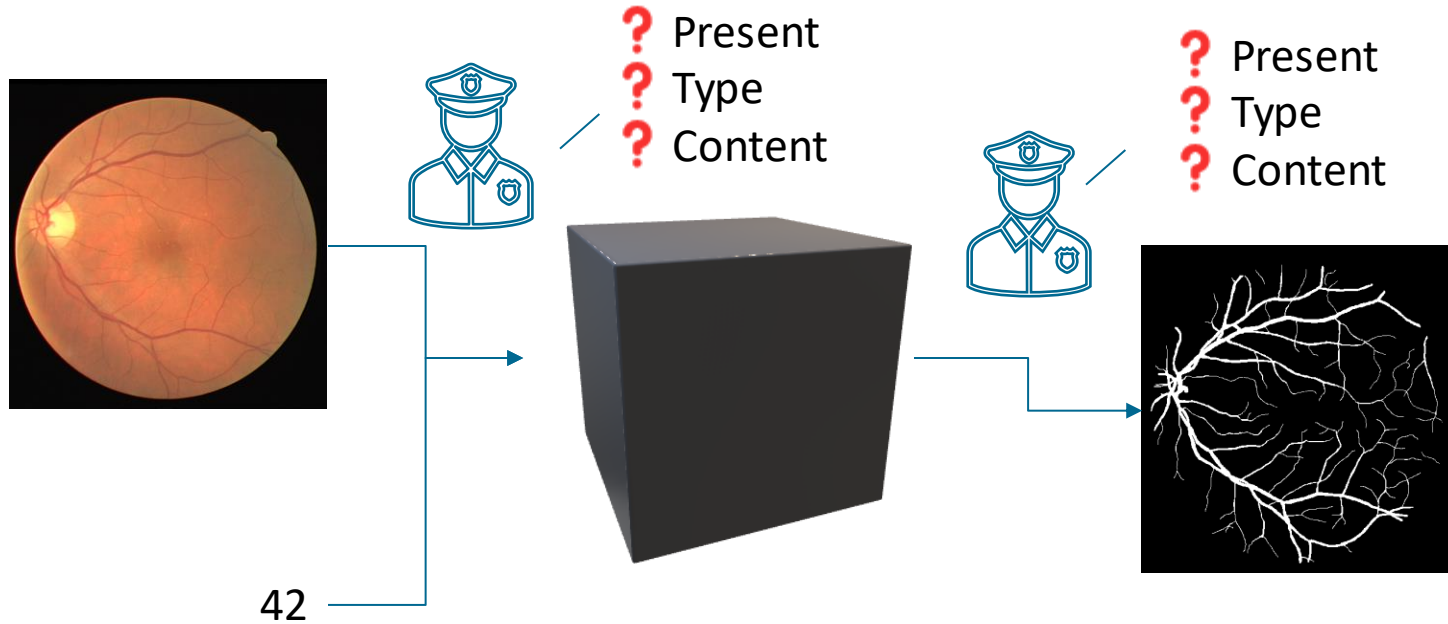
color-fundus-image	age-in-months	binary-vessel-segmentation
Image	Integer	Segmentation
/input/images/color-fundus/*	/input/age-in-months.json	/output/images/binary-vessel-segmentation/*

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# Inputs and Outputs: interface kinds

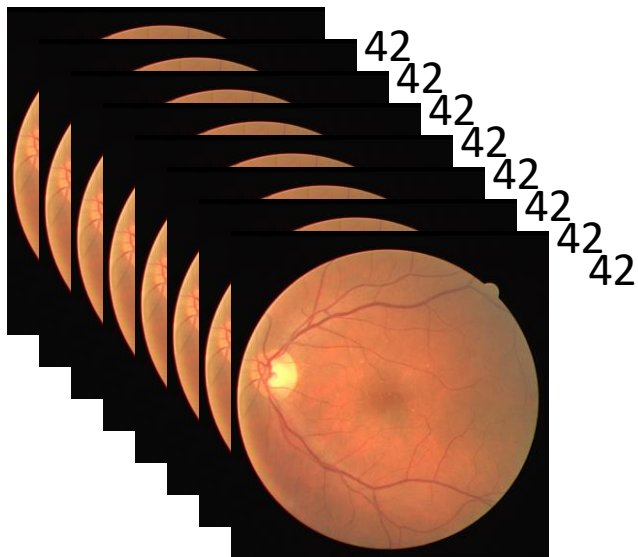
- String
- Integer
- Float
- Bool
- Anything
- Chart
- 2D bounding box
- Multiple 2D bounding boxes
- Distance measurement
- Multiple distance measurements
- Point
- Multiple points
- Polygon
- Multiple polygons
- Line
- Multiple lines
- Angle
- Multiple angles
- Ellipse
- Multiple ellipses
- Three-point angle
- Multiple three-point angles
- Affine transform registration
- Choice
- Multiple choice
- Image
- Segmentation
- Heat Map
- Displacement field
- PDF file
- SQREG file
- Thumbnail jpg
- Thumbnail png
- OBJ file
- MP4 file
- CSV file
- ZIP file

# The Algorithm – Validation



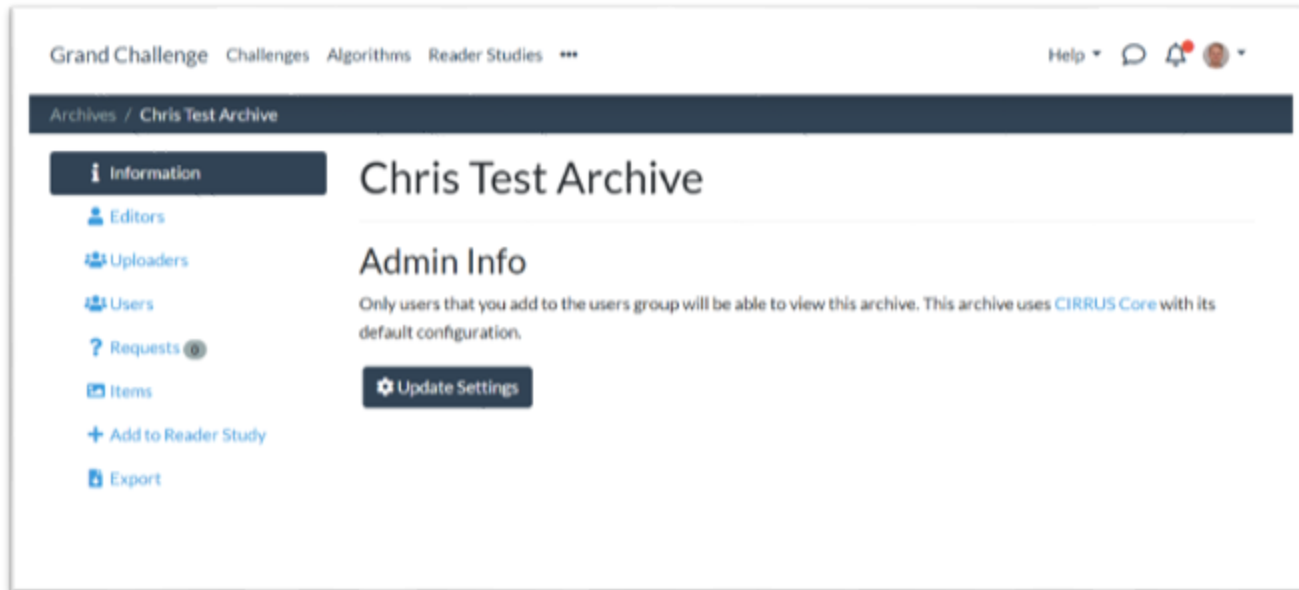
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# Archive Items: Validated Input Sets

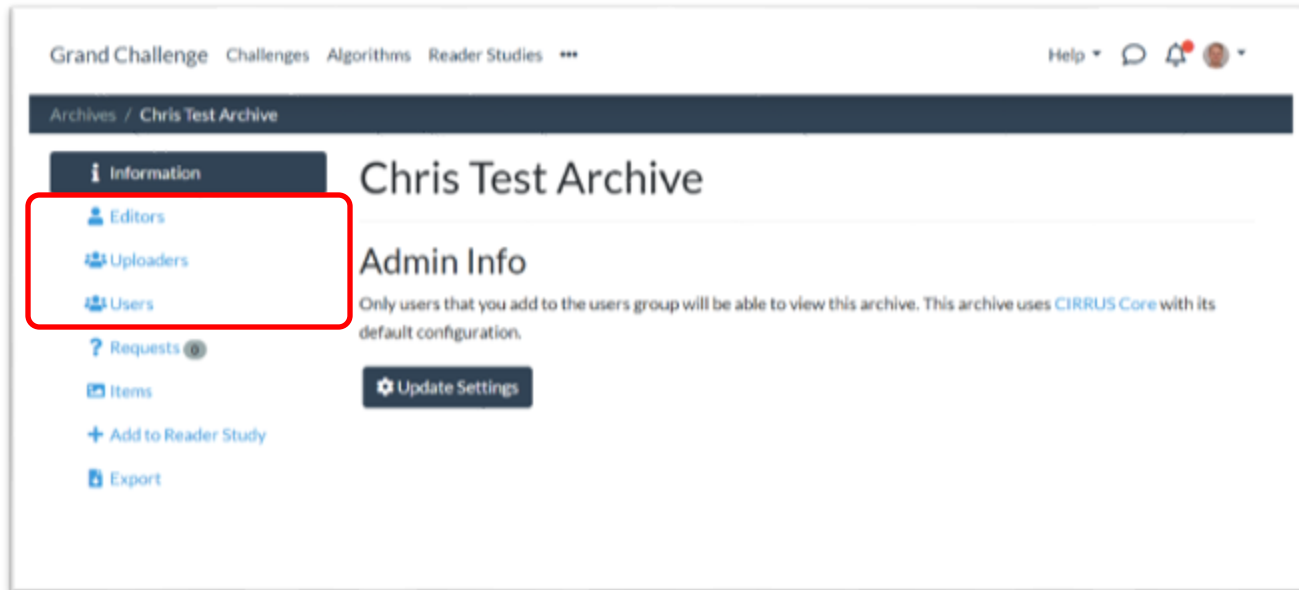


? Present  
? Type  
? Content

# Archives on Grand-Challenge

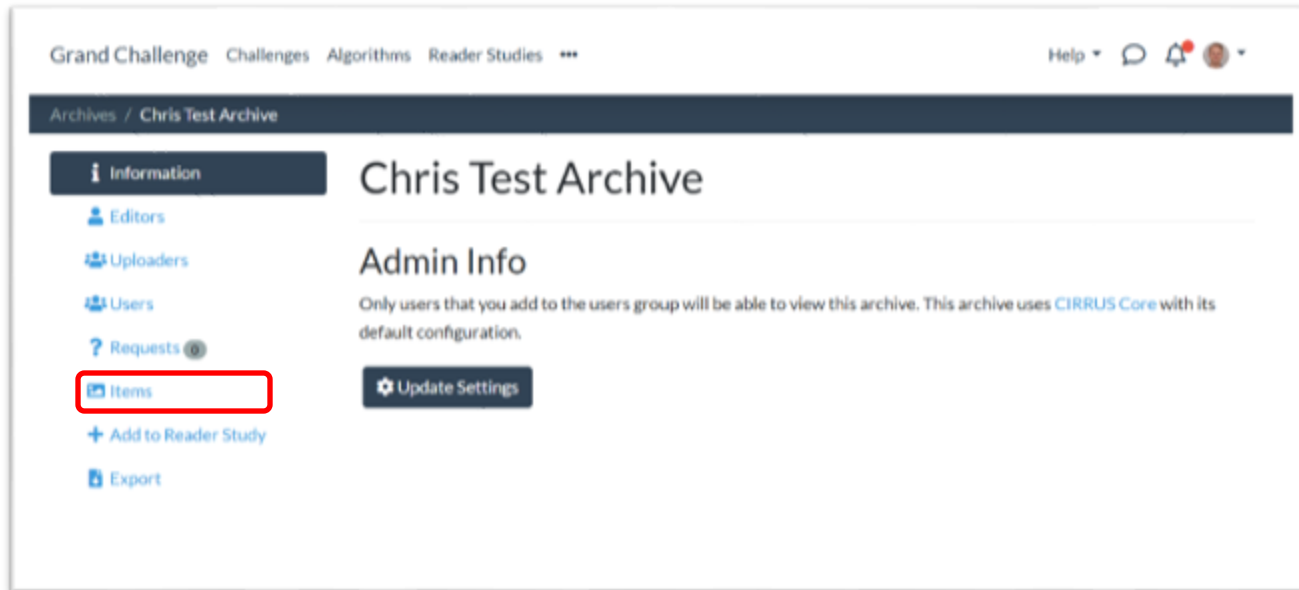


# Archives on Grand-Challenge








# What is an Archive?



# Archive Items

[Grand Challenge](#) [Challenges](#) [Algorithms](#) [Reader Studies](#) [...](#)













Help   

Archives / [Chris Test Archive](#) / Archive Items

## Chris Test Archive Archive Items

[+ Add Archive Item \(single\)](#) [+ Add Image-Only Archive Items \(batch\)](#) [Delete selected](#) [Delete all archive items](#)

Search:

Detail	ID	Title	Values	Viewer	Edit	Remove
<input type="checkbox"/>	 80b5f00e-1db7-42b1-ae9d-4589f5465139	 Birth Age 67.0  T1 Brain MRI: 00008320_AA07C2D4_AA871124_0... (mha)	  			
<input type="checkbox"/>	 9f68361a-e628-4155-9a2e-8be4c5d11f45	 Birth Age 42.0  T1 Brain MRI: 00008320_AA07C2D4_AA871124_0... (mha)	  			

Showing 1 to 2 of 2 entries

[Previous](#) [1](#) [Next](#)

# Archive Items: a validated input set

Grand Challenge Challenges Algorithms Reader Studies ... Help

Archives / Chris Test Archive / Archive Items

## Chris Test Archive Archive Items

+ Add Archive Item (single) + Add Image-Only Archive Items (batch) Delete selected Delete all archive items

Search:

Detail	ID	Title	Values	Viewer	Edit	Remove
<input type="checkbox"/>	80b5f00e-1db7-42b1-ae9d-4589f5465139	Birth Age 67.0 T1 Brain MRI: 00008320_AA07C2D4_AA871124_0... (.mha)				
<input type="checkbox"/>	9f68361a-e628-4155-9a2e-8be4c5d11f45	Birth Age 42.0 T1 Brain MRI: 00008320_AA07C2D4_AA871124_0... (.mha)				

Showing 1 to 2 of 2 entries

Previous 1 Next

# Archives: uploading

Grand Challenge Challenges Algorithms Reader Studies ... Help

Archives / Chris Test Archive / Archive Items

## Chris Test Archive Archive Items

**+ Add Archive Item (single)** + Add Image-Only Archive Items (batch) Delete selected Delete all archive items

Search:

	Detail	ID	Title	Values	Viewer	Edit	Remove
<input type="checkbox"/>		80b5f00e-1db7-42b1-ae9d-4589f5465139	Birth Age 67.0 T1 Brain MRI: 00008320_AA07C2D4_AA871124_0... (mha)				
<input type="checkbox"/>		9f68361a-e628-4155-9a2e-8be4c5d11f45	Birth Age 42.0 T1 Brain MRI: 00008320_AA07C2D4_AA871124_0... (mha)				

Showing 1 to 2 of 2 entries

Previous 1 Next

# Archives: uploading

[Grand Challenge](#) [Challenges](#) [Algorithms](#) [Reader Studies](#) [...](#)

[Help](#) [...](#) [...](#) [...](#)

Archives / Chris Test Archive / Archive Items / Add Archive Item

## Add Archive Item to Chris Test Archive

Title

Birth-Age

T1-Brain-Mri

Choose data source...

Add value for new interface

[Back](#) [Save](#)

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# Image interoperability: conversion

.mha  
.mhd with .raw or .zraw  
.dcm  
.nii  
.nii.gz  
.nrrd  
.e2e  
.fds  
.fda  
.png  
.jpeg  
.tiff  
.svs (Aperio)  
.vms, .vmu, .ndpi (Hamamatsu)  
.scn (Leica)  
.mrxs (MIRAX)  
.biff (Ventana)  
.dcm (DICOM-WSI)

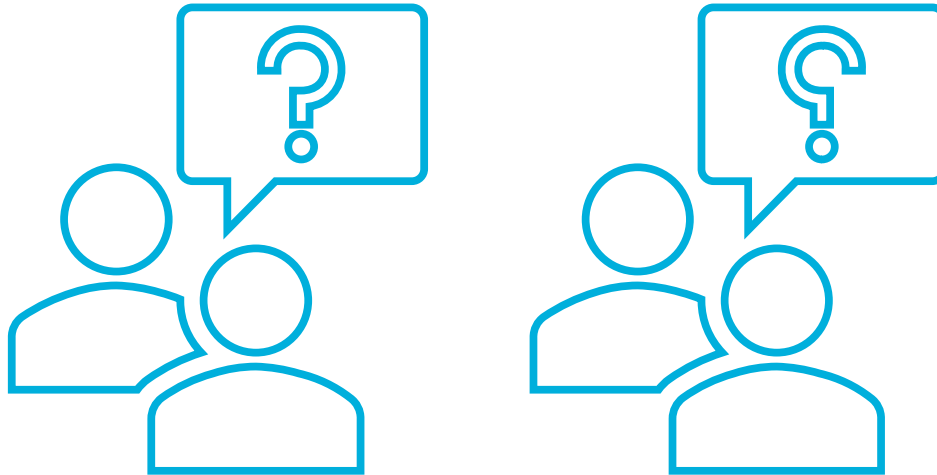


**MetalO Format ( *.mha* )**

**Tagged Image File Format ( *.tif* + *.dzi* )**

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# Questions & Answers



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# Hands-on #1: Archives

- Split into teams, with break-out rooms.
- Each team will have a challenge and associated archive.
- See the instruction page on [workshop2025.grand-challenge.org](https://workshop2025.grand-challenge.org).



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