Class

DetectTrajectoriesRequest

A request that detects the trajectories of shapes moving along a parabolic path.

iOS 18.0+ | iPadOS 18.0+ | macOS 15.0+ | tvOS 18.0+ | visionOS 2.0+

```
final class DetectTrajectoriesRequest
```

Overview

After the request detects a trajectory, it produces a collection of `TrajectoryObservation` objects that contain the shape's detected points and an equation describing the parabola.

Topics

Creating a request

`init(trajectoryLength: Int, DetectTrajectoriesRequest.Revision?, frameAnalysisSpacing: CMTime?)`

Creates a trajectory-detection request.

Getting the revision

`let revision: DetectTrajectoriesRequest.Revision`

The algorithm or implementation the request uses.

`static let supportedRevisions: [DetectTrajectoriesRequest.Revision]`

The collection of revisions the request supports.

`enum Revision`

A type that describes the algorithm or implementation that the request performs.

Inspecting a request

`var objectMaximumNormalizedRadius: Float`

The maximum radius of the bounding circle of the object to track.

`var objectMinimumNormalizedRadius: Float`

The minimum radius of the bounding circle of the object to track.

`var targetFrameTime: CMTime`

The requested target frame time for processing trajectory detection.

`let trajectoryLength: Int`

The number of points to detect before calculating a trajectory.

Performing a request

```
func perform(on: URL, orientation: CGImagePropertyOrientation?) async
throws -> Self.Result
```

Performs the request on an image URL and produces observations.

Required Default implementations provided.

```
func perform(on: Data, orientation: CGImagePropertyOrientation?) async
throws -> Self.Result
```

Performs the request on image data and produces observations.

Required Default implementations provided.

```
func perform(on: CGImage, orientation: CGImagePropertyOrientation?)
async throws -> Self.Result
```

Performs the request on a Core Graphics image and produces observations.

Required Default implementations provided.

```
func perform(on: CVPixelBuffer, orientation: CGImagePropertyOrientation
?) async throws -> Self.Result
```

Performs the request on a pixel buffer and produces observations.

Required Default implementations provided.

`func perform(on: CMSampleBuffer, orientation: CGImageProperty Orientation?) async throws -> Self.Result`

Performs the request on a Core Media buffer and produces observations.

Required Default implementations provided.

`func perform(on: CIImage, orientation: CGImagePropertyOrientation?) async throws -> Self.Result`

Performs the request on a Core Image image and produces observations.

Required Default implementations provided.

`struct TrajectoryObservation`

An observation that describes a detected trajectory.

Relationships

Conforms To

`CustomStringConvertible`
`Equatable`
`Hashable`
`ImageProcessingRequest`
`Sendable`
`SendableMetatype`
`StatefulRequest`
`VisionRequest`

See Also

Trajectory, contour, and horizon detection

`struct DetectContoursRequest`

A request that detects the contours of the edges of an image.

`struct DetectHorizonRequest`

An image-analysis request that determines the horizon angle in an image.