



Harpia: Açık Kaynak Kodlu -Bir Kuş Kadar Özgür- Bilgisayarlı Görme Yazılımı

Bilgisayarlı Görme (Computer Vision)



- Görüntü İşleme
- Dokum (Texture) İşleme
- Üç Boyutlu Modelleme
- Derinlik Algılama
- Örüntü Tanıma
- Hedef Tesbiti
- Görüntü Sıkıştırma
- Yüz Tanıma
- Parmak İzi Tanıma



- İstatistiksel Sınıflandırma
- Özellik Çıkartma
- Kalıp Tanıma
- Sinyal Analizi



- Modüler bir yapıya sahip görüntü işleme yazılımıdır.
- Endüstriyel ve akademik uygulamalar için geliştirilmiştir
- Kurulum ve geliştirme paketleri aşağıdaki adreste bulunabilir.

<http://s2i.das.ufsc.br/harpia/en/home.html>



Development of a graphic interface for learning, implementation and management of vision systems



Florianópolis, Thursday, 1th april 2010

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The **Harpia** project was one of the projects approved into announcement of FINEP CT-INFO 2003 to build Open Source software. Its main objective is to develop a graphic environment, following the Open Source policy, to help the education, training, implementation and management os vision system.

The system is composed by several modules that allow the communication with hardware devices for signal processing (mainly images) and for management of remote vision systems.

The system is available for industrial and academic applications, facilitating and helping the development of control systems for quality assurance and process based on vision systems; improving the quality and reducing fabrication costs beyond the fact that it also spreads the use of this kind of technology.

As of July 17th, 2009, the software is on its 1.0 (stable) version. Many new features are planned for next version. Also, this stable version has been packaged for the Ubuntu distribution and can be found through Karmic Koala's oficial universe repositories (or [here](#)).

If you are interested in other projects of S2iLib, please refer to our wiki.

Search web:

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Sponsorship:



Developer:



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Downloads

Version 1.0

- [Ubuntu .deb Installer - Architecture independent.](#)
- [Ubuntu package details](#)
- [Development Package Archive](#)

Version 1.0alpha

- [GNU/Linux installer \(.deb\) \(32-bit\)](#)
- [GNU/Linux install \(.desktop - installation script that use double-click, "save as" on the Desktop\)](#)

Version (pre0.5) (STABLE)

- [GNU/Linux installer \(.deb\) \(RECOMMENDED\) \(32-bit\)](#)

Version 0.4

- [GNU/Linux install \(.desktop - installation script that use double-click, "save as" on the Desktop\)](#)
- [GNU/Linux installer \(.deb\), daily generated from repository](#)
- [Windows Installer](#)

Version 0.3

Search web:

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Sponsorship:



Developer:



File Process Edit View Help



New



Open Project



Save Project



Run [F9]



Save Source [F11]



Zoom Out



Zoom In



Normal Boyut

Search

Unnamed 0[*]

Available Blocks

- ▷ Morphological Operations
- ▷ Math Functions
- ▷ Filters and Color Conversion
- ▷ Feature Detection
- ▷ Gradients, Edges and Corners
- ▷ Histograms
- ▷ Arithmetic and logical operations
- ▷ Experimental
- ▷ General

Blok Adı	Blok İçerisindeki Modüller
Morphological operation	Erosion, Dilate, Opening, Closing
Math Functions	Pow, Exp, Log
Filters and Color Conversion	Color Conversion, Compose RGB, Decompose RGB, Smooth, Threshold
Feature Detection	Detect Hough Circles, Detect Hough Lines, Match Template, Find Minor Max, Find Squares, Find Object of a Given Color, Face Detector, Stereo Correspondence
Gradients, Edges and Corners	Sobel, Laplace, Canny
Histograms	Histogram, Equalize Histogram
Arithmetic and logical operations	Sum, Subtraction, Multiplication, Division, Not, And, Or, Xor
Experimental	Get Size, New Rectangle, Crop Image, Move Rectangle, Run Command, Resize Image, Rotate Image, New Point, Check Point, New Double
General	Image, Save Image, Show Image, Fill Image, Comment, Save Video, Live Delay, Fill Rectangle




Acquisition

Properties Appearance Ajuda

Source type

File New Image Capture Live Mode Video File


File properties


Filename: 

New image


Image size:	Width	Height
	<input type="text" value="640"/>	<input type="text" value="480"/>

Camera Properties


Camera: 

Size: 

Video Properties

Filename: 

Stream (Live or Video) Properties

Frame Rate (fps):  (in case of multiple streams, the highest framerate will be chosen)



File Process Edit View Help

New Open Project Save Project Run [F9] Save Source [F11] Zoom Out Zoom In Normal Boyut

Search

Unnamed 0[*]

Available Blocks

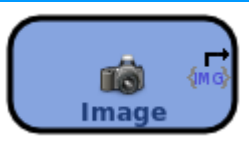

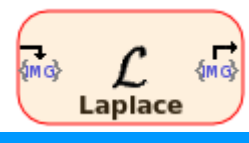

- Smooth
- Threshold
- ▶ Feature Detection
- ▶ Gradients, Edges and Corners
- ▼ Histograms
 - Histogram
 - Equalize Histogram
- ▶ Arithmetic and logical operations
- ▶ Experimental
- ▼ General
 - Image
 - Save Image
 - Show Image
 - Fill image



Shows the input image on a new window.

Processing complete



Nesnenin Şekli	Nesnenin İşlevi	Nesnenin Özellikleri
	Görüntü açmayı sağlar, başka bir modülün img özelliğine bağlanabilir.	Görüntünün tipi(resim, video, canlı yayın vs), dosyayının yeri, boyutu, kameranın özellikleri vs...
	İnput olarak gelen görüntüyü eşikler böylelikle dosyadan bazı gereksiz bölümler atılabilir.	Eşiklenecek değer, maksimum değer, eşikleme tipi vs...
	Kenar belilemek için kullanılır.	Maske boyutu
	İnput olarak gelen görüntüyü göstermek veya depolamak için kullanılır.	-



**Orijinal
Görüntü**

**Eşiklenen
Görüntü**

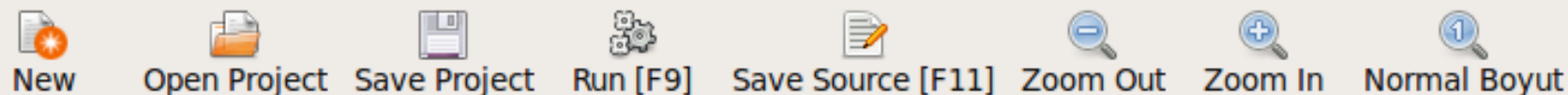
**Laplace İşlemi
sonunu**



S2i - Harpia



File Process Edit View Help



Search

Unnamed 0[*]

Available Blocks

Filters and Color Conversion

Color Conversion

Compose RGB

Decompose RGB

Smooth

Threshold

Feature Detection

Gradients, Edges and Corners

Sobel

Convert colors between different standards of graylevel/color images.



Image



Haar (face) Detector



Show Image

Processing complete ✓

ubuntu



Orijinal Görüntü



İşaretlenmiş Yüzler

Sonuçlar



Örneklere de görüldüğü gibi harpia gelişmiş ve uygulanabilirliği oldukça fazla olan bir görüntü işleme yazılımıdır.

Özellikle akademik çalışmalarda çok rahatlıkla kullanılabilir.

Fakat yazılımın ana dilinin portekizce ve anavatanının Brezilya olduğundan dolayı ingilizce kaynak sıkıntısı mevcuttur.

Tüm buna rağmen geliştiricilerin yazılımın yeni versiyonunun tamamen ingilizce hazırlanması konusundaki çalışmaları mutluluk uyandırıcıdır.