

DECLARATION OF NATHANIEL E FRANK-WHITE

1. I am a Records Request Processor at the Internet Archive. I make this declaration of my own personal knowledge.
2. The Internet Archive is a website that provides access to a digital library of Internet sites and other cultural artifacts in digital form. Like a paper library, we provide free access to researchers, historians, scholars, and the general public. The Internet Archive has partnered with and receives support from various institutions, including the Library of Congress.
3. The Internet Archive has created a service known as the Wayback Machine. The Wayback Machine makes it possible to browse more than 450 billion pages stored in the Internet Archive's web archive. Visitors to the Wayback Machine can search archives by URL (i.e., a website address). If archived records for a URL are available, the visitor will be presented with a display of available dates. The visitor may select one of those dates, and begin browsing an archived version of the Web. Links on archived files in the Wayback Machine point to other archived files (whether HTML pages or other file types), if any are found for the URL indicated by a given link. For instance, the Wayback Machine is designed such that when a visitor clicks on a hyperlink on an archived page that points to another URL, the visitor will be served the archived file found for the hyperlink's URL with the closest available date to the initial file containing the hyperlink.
4. The archived data made viewable and browseable by the Wayback Machine is obtained by use of web archiving software that automatically stores copies of files available via the Internet, each file preserved as it existed at a particular point in time.
5. The Internet Archive assigns a URL on its site to the archived files in the format `http://web.archive.org/web/[Year in yyyy][Month in mm][Day in dd][Time code in hh:mm:ss]/[Archived URL]` aka an "extended URL". Thus, the extended URL `http://web.archive.org/web/19970126045828/http://www.archive.org/` would be the URL for the record of the Internet Archive home page HTML file (`http://www.archive.org/`) archived on January 26, 1997 at 4:58 a.m. and 28 seconds (1997/01/26 at 04:58:28). The date indicated by an extended URL applies to a preserved instance of a file for a given URL, but not necessarily to any other files linked therein. Thus, in the case of a page constituted by a primary HTML file and other separate files (e.g., files with images, audio, multimedia, design elements, or other embedded content) linked within that primary HTML file, the primary HTML file and the other files will each have their own respective extended URLs and may not have been archived on the same dates.
6. Attached hereto as Exhibit A are true and accurate copies of screenshots of the Internet Archive's records of the archived files for the URLs and the dates specified in the attached coversheet of each printout.

ALIGN - EXHIBIT 1032

Align Technology, Inc. v. Dental Monitoring SAS

IPR2024-00052

7. I declare under penalty of perjury that the foregoing is true and correct.

DATE: August 31, 2023

Nathaniel E Frank-White
Nathaniel E Frank-White

EXHIBIT A

<http://web.archive.org/web/20170503233424/http://people.ee.ethz.ch/~cvlsegmentation/cob/>

Home

Benchmark SoA

Explore SoA

Code & Datasets

Contact

Convolutional Oriented Boundaries

State-of-the-Art Contour Detection and Hierarchical Segmentation



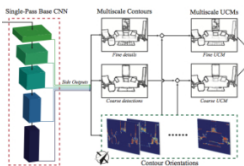
Publications



[K.K. Maninis](#), [J. Pont-Tuset](#), [P. Arbeláez](#), and [L. Van Gool](#)

Convolutional Oriented Boundaries: From Image Segmentation to High-Level Tasks
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2017.

[\[PDF\]](#) [\[BibTex\]](#)



[K.K. Maninis](#), [J. Pont-Tuset](#), [P. Arbeláez](#), and [L. Van Gool](#)

Convolutional Oriented Boundaries
European Conference on Computer Vision (ECCV) 2016

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Abstract

This paper presents Convolutional Oriented Boundaries (COB), which produces multiscale oriented contours and region hierarchies starting from generic image classification CNNs. COB is computationally efficient, because it requires a single CNN forward pass for contour detection and uses a novel sparse boundary representation for hierarchical segmentation; it gives a significant leap in performance over the state-of-the-art, and it generalizes very well to unseen categories and datasets. We perform extensive experiments on BSDS, PASCAL Context, PASCAL Segmentation, and MS-COCO, showing that COB provides state-of-the-art contours, region hierarchies, and object proposals.

Demo of the Detected Orientations, UCM, and Object Proposal





Top row: Contour response at different orientations. Bottom row: Hierarchical segmentation (UCM) and best segmented object proposal.

Benchmark State of the Art

Display the quantitative evaluation of the current State-of-the-Art techniques in PASCAL Context.

Explore State of the Art

Qualitatively compare current State-of-the-Art techniques in PASCAL Context.

Code & Pre-Computed Results

Download the COB code and pre-computed COB segmentations and proposals in a variety of popular datasets: BSDS500, MS-COCO, PASCAL, etc.