

Raffi Enficiaud

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Areas of specialization

Image processing, mathematical morphology, machine learning, generic programming
Proficient in C++

Education

- 2001-2006 Ecole des Mines de Paris, France
Ph.D in Computer Science, Mathematical Morphology Centre
Dissertation title: "Multi-dimensional and multi-spectral algorithms in the field of Mathematical Morphology: The meta-programming approach". Advisor: Dr. M. Bilodeau. Graduated with highest honours.
- 1997-2000 National Institute on Telecommunication, Paris, France
M.Sc in Telecommunication

Professional experience

- 2011-... DxO Labs, France
Research engineer, DxO Optics Pro
- 2008-2011 INRIA Paris-Rocquencourt, France
Research engineer, IMEDIA team (vision, perception & multimedia understanding)
- 2007-2008 DxO Labs, France
Research engineer, image quality evaluation department
- 2001-2007 Ecole des Mines de Paris, France
Research engineer, Mathematical Morphology Centre
- 2000-2001 TF1, France
Consultant & case study engineer, multimedia department
- 2000 Philips, France
Graduation internship under the supervision of Dr. B. Pesquet-Popescu
- July-Aug. 1998 ProjectAvison, Inc., New-York

Publications & talks

INTERNATIONAL CONFERENCES

- 2011 Enficiaud, Mouine, "Landmark extraction from palmate leaves - application to grape", *The International Conference on Pattern Recognition Applications and Methods*
- 2010 Enficiaud, "Queue and priority queue based algorithms for the computation of the Quasi-distance", *International Conference on Image Analysis and Recognition*, Springer LNCS 6111
- 2009 Enficiaud & Boujemaa, "New challenges for visual information retrieval in biodiversity applications", *Taxonomic Database Working Group*
- 2009 Coutaud, Bonnet, Joly, Enficiaud & al., "Advances in taxonomic identification by image recognition with the generic content-based image retrieval IKONA", *e-Biosphere*
- 2006 Enficiaud & al., "Clovis - A generic framework for general purpose visual surveillance applications", *IEEE International Workshop on Visual Surveillance, ECCV Workshop*
- 2004 Dokladal, Enficiaud & Dejnozkova, "Contour-Based Object Tracking with Gradient-Based Contour Attraction Field", *IEEE International Conference on Acoustics, Speech, and Signal Processing*

INVITED TALKS

- 2010 Enficiaud, “Yayi: A generic framework for morphological image processing”, *EPITA Lab*
- 2009 Enficiaud, “The VITALAS project: Video and Image Indexing and Retrieval in the Large Scale”, *International Symposium of the THESEUS Research Program*, Kick-off talks
- 2009 Boujemaa & Enficiaud, “IKONA : un moteur d’indexation, de navigation et de recherche d’information par le contenu visuel : application aux bases d’images en botanique”, *International Agricultural Show*
- 2008 Enficiaud & Lerallut, “Morph-M and genericity in image processing”, *EPITA Lab*
- 2007 Enficiaud, “New Mathematical Morphology tools for color processing and segmentation”, *Telecom. ParisTech*

PATENT

- 2004 Enficiaud & Pesquet-Popescu, “Video coding method with global bitrate allocation”, *Philips Electronics N.V.*

Teaching & supervision

- 2009-2010 M.Sc internship co-advisor of Sofiene Mouine: “Segmentation of grape leaves”
- 2008-2009 Supervised the work of two development engineers for the VITALAS project
- 2009 Advanced C++ training for researcher and scientific staff (3 × 8 hours), INRIA Paris-Rocquencourt
- 2005-2006 Supervised practical work on color (2 × 8 hours), Mathematical Morphology Centre

Softwares

- 2009-2012 **YAYI**
Generic (template) image processing and mathematical morphology library, written in C++ with a Python interface. Open-source, released under the “Boost” licence.
- 2004-2006 **MORPH-M**
Production level image processing and mathematical morphology library, written in C++ with a Python interface. Contains reference algorithms for mathematical morphology. Closed source.

Technical skills

C++, Java, Python, CMake, GNU Make, C#, Perl, R, Matlab, SQL, Javascript, XSLT, HTML, Swig
Boost, Qt / wxWindows, VTK
Agile development, SCRUM, generic & meta programming, multi-threaded programming
Latex, Office, XCode, Visual Studio