

# VINCENT GARCIA, PH.D.

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## WORK EXPERIENCE

- 2009 - 2011 **R&D engineer — INRIA, Sophia Antipolis**  
Conception and implementation of RPI: a C++ framework for medical image registration (see *Open Source Projects* section). Application to lungs, thorax, and pelvis registration.
- 2008 - 2009 **Postdoctoral researcher — École Polytechnique, Paris**  
Conception and implementation of jMEF: a Java framework for mixtures of exponential families (see *Open Source Projects* section). Application to image clustering.
- 2004 - 2008 **Research assistant — RealViz / CNRS / University of Nice, Sophia Antipolis**  
(1) Tracking (rotoscopy) based on keypoint trajectories. (2) GPGPU implementation (NVIDIA CUDA) of  $k$ NN search algorithms (see *Open Source Projects*) with application to tracking based on block-matching and Kullback-Leibler divergence.
- 2004 - 2008 **Teaching assistant — University of Nice, Nice**  
See *Teaching Activities* section for the list of courses.
- 2004 **Internship — CNRS / University of Nice, Sophia Antipolis**  
Sub-pixel motion estimation for scalable video coding.
- 2003 **Internship — Single Buoy Moorings Inc., Monaco**  
Automatic conversion of 3D models from CAD (*PDMS to Inventor, and conversly*).
- 2003 **Internship — INRIA, Sophia Antipolis**  
Immersive 3D visualization (Java3D) of electromagnetic waves propagation.

## EDUCATION

- 2008 **Ph.D., Image Processing and Computer Science**  
Title: "*Suivi d'objets d'intérêt dans une séquence d'images : des points saillants aux mesures statistiques*". Advisors: M. Barlaud and É. Debreuve.  
University of Nice, Sophia Antipolis
- 2004 **M.Sc., Image Processing and Computer Vision**  
University of Nice, Sophia Antipolis
- 2003 **M.Sc., Computer Science and Engineering**  
ESSI, Sophia Antipolis
- 2002 **B.Sc., Applied Mathematics**  
University of Nice, Sophia Antipolis

## OPEN SOURCE PROJECTS

- 2009 - 2011 **RPI - Registration Programming Interface**  
RPI is a C++ framework for medical image registration. Based on ITK objects, RPI provides a simple and intuitive interface for image registration, while being more generic than the existing ITK framework.  
Source code available at: [www.inria.fr/sophia/asclepios/software/RPI](http://www.inria.fr/sophia/asclepios/software/RPI)
- 2008 - 2009 **jMEF**  
jMEF is a Java framework that provides a set of tools for mixtures exponential families. jMEF allows to learn, simplify, and provide a hierarchical representation of any mixture of exponential families.  
Source code available at: [www.lix.polytechnique.fr/~nielsen/MEF](http://www.lix.polytechnique.fr/~nielsen/MEF)
- 2008 - 2009 **Fast k-nearest neighbor search using GPU**  
GPGPU implementation (Nvidia CUDA) of the exhaustive  $k$ -nearest neighbor ( $k$ NN) algorithms. The proposed implementations outperforms most of the state of the art CPU/GPU  $k$ NN implementations.  
Source code available at: [www.i3s.unice.fr/~creative/KNN](http://www.i3s.unice.fr/~creative/KNN)

## SKILLS

- General skills Problem solving, teamwork, numeracy, interpersonal skills
- Technical skills
- Programming C/C++, GPGPU (CUDA, OpenCL), Java, Matlab, Python, etc.
  - Development Xcode, Qt creator, Eclipse, Visual studio
  - Office Apple iWork, Microsoft Office, Open Office, LaTeX
  - Web HTML, PHP, CSS, Javascript
  - OS Mac OS X, Linux, Windows 7 / XP

## LANGUAGES

- French Mother tongue
- English Fluent
- Italian Notions

## TEACHING ACTIVITIES – LIST OF COURSES

- Image processing and compression 85h C++ and Matlab
- Advanced imperative programming 100h C
- Algorithms and data structure 20h Java
- Numerical and graphical geometry 30h C++ and OpenGL

## HOBBIES

- Photography [www.flickr.com/photos/garciav](http://www.flickr.com/photos/garciav)
- Sports Swimming, snowboarding, skiing, longskate (*3rd position in national contest*), running, cycling, baseball (*regional team*)
- Travels France, Russia, USA, Canada, England, Scotland, Ireland, Belgium, Netherlands, Czech Republic, Slovakia, Italia, Spain, Greece, Austria, Switzerland, Algeria

## SOCIAL ACTIVITIES & MISCELLANEOUS

- Co-founder of the Ph.D. student association ADSTIC: [www.adstic.fr](http://www.adstic.fr)
- Organization of the "Fête de la Science" event, 2005 and 2006
- Organization of the first edition of the annual meeting DECLIC
- Lifeguard, several first-aid french diploma (BNNSA, AFCPSAM, AFPS)