

# Pascal GUEHL - R&D Engineer in Computer Graphics at INRIA

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## Education

- 2004 - 2005: **Arts & Metiers ParisTech (ENSAM)** - Advanced/Post Master in "Visual Simulation and Virtual Reality"  
- 3D: Maths, Image Synthesis, programming, tools [C++, OpenGL, Cg/GLSL, RenderMan, Maya] (*Mastère Spécialisé*)  
2000 - 2003: **ESIEA** - School of Engineering in "Informatics, Electronics and Automation" - Master of Science  
- distinction: « With Highest Honors » [majors: Informatics, Signal and Image Processing]

### UNIVERSITY OF CERGY-PONTOISE:

- 1999 - 2000: Master of Science in "Physics and Applications" (*Maîtrise*) - [majors: Signal Processing, A.I.]  
1998 - 1999: Bachelor of Science in "Physics" (*Licence*)  
1996 - 1998: Associate's Degree in "Mathematics, Informatics and Applications to Sciences" (*Deug MIAS*)  
- distinction: enrolled in the preparatory school cursus to the French "Grandes Ecoles" (ENSI-Deug)

## Work Experience [ 11 years - 9 months ]

- 2011 / 2015 - **INRIA** (Research Institute) - [ 3 years - 7 month ]  
R&D Engineer in Computer Graphics and GPU Computing on the "GigaVoxels" project:  
=> visualization and generation of detailed data with sparse voxel octrees and cache mechanism on GPU  
- lead programmer / project technical manager [ C++, UML, CUDA, OpenGL 4.x, CMake, Qt, SVN ]  
- supervision of trainees / engineers, technology watch, technology transfer, debug/profiling/optimization  
- funded by a 4-year research project with **RSA Cosmos** company for next-generation planetariums:  
=> **RTIGE** project: Real-Time & Interactive Galaxy for Edutainment (French **National Research Agency**)  
- conferences/publications: speaker at **GTC NVidia** 2013 (San Jose, California) and **AFIG** 2012 (France)
- 2006 / 2011 - **CS (Communication et Systèmes)** and its subsidiary **Diginext** - [ 5 years - 9 months ]  
Visual Simulation & Virtual Reality department [ C++, UML, OpenGL/GLSL, CMake, SVN, Qt, VTK, CUDA, XML/XSL ]  
3D Software Developer and Project Technical Manager, supervision of engineers, technology watch  
=> projects for companies such as **IRSN**, **Airbus**, **CNES**, **Cité de l'Espace**, **CEA / Renault** ...  
Ex: **cartX** - 3D Geographical Information System & scientific visualization during 2 years and 7 months:  
=> used by the **IRSN** Crisis Technical Center and **EDF** for Safety and Nuclear Risk Management
- 2003 / 2005 - **THALES (Training & Simulation)** - [ 1 year - 8 months ]  
- 7 months: Special effects SDK for THALES Next-Generation 3D rendering engine - R&D INTERNSHIP  
=> Visual Simulation Product team [ C++, UML, OpenGL, Cg/GLSL, Maya (C++ plugin), SVN ]  
- 1 month: Virtual cockpit of Tiger's flight simulator (work with **Airbus Helicopters**) [ C++/C#, OpenGL, SVN ]  
- 1 year: Virtual cockpit of Tiger's flight simulator [ C++, C#, OpenGL, SVN ] - INTERNSHIP  
=> work with **Airbus Helicopters**, **Rheinmetall Defence Electronics** (Germany) and Australian teams
- 2001 - **Télécom ParisTech (ENST)** (School of Engineering, research lab) - [ 3 months ] - R&D INTERNSHIP  
Signal and Image processing for compression (adaptive wavelet filtering) [ C, C++, Matlab ]
- 2000 - **ENSEA** (School of Engineering in Electronics and its Applications, research lab) - [ 3 months ] - R&D INTERNSHIP  
Image processing for mobile robot (object recognition with artificial intelligence) [ C, C++, Matlab ]
- 1999 - **SKF Equipements** (R&D office) - [ 2 months ] : Mechanical simulations [ C, C++, Matlab ] - R&D INTERNSHIP
- 1998 - **BP** (Air BP) - [ 1 month ] - Accounting service - (student job)

## Skills - Personal interests / hobbies

Windows/Linux, Object-Oriented programming, 3D programming, GPU Computing, parallel programming, GUI  
Profiling/debugging Expertise : C/C++, UML, CMake, SVN, OpenGL/GLSL, CUDA (NSight), Qt...

Hobbies: cinema, music (concerts), hiking, soccer, table tennis, travel (initiation to Console game programming)  
Guitar: conservatory, 28 years of practice, bands, concerts, song writing / computer music (3 EPs, 1 album in progress)  
=> 2003 - **Academie du 13eme** (music school) - [ 7 months ] : guitar professor (+1month receptionist/enrollment)  
=> studying Bachelor of Music courses at home (musicology), preparing an album of music, learn piano