

Antoine Bouthors

Ph.D Candidate & Engineer

INRIA Rhône-Alpes
655, av. de l'Europe
38334 Saint Ismier Cedex
France

Born 12/27/1981
Work phone: +33 4 76 61 55 93
Mobile phone: +33 6 79 86 42 13
E-mail : Antoine.Bouthors@gmail.com

EDUCATION

- 2004 – present **Ph.D candidate in Computer Science.** Expected completion May 2008.
Grenoble Universities, Grenoble, France. Team EVASION (LJK-INRIA).
Dissertation topic: **Real-time realistic rendering of clouds.**
Advisors: [Fabrice Neyret](#), Nelson Max (UC Davis).
Committee: Fabrice Neyret, Jerry Tessendorf, Mathias Paulin.
- 2003 – 2004 **M.Sc in Computer Science** with Computer Graphics specialization.
Marne-la-Vallée University, Noisy-le-Grand, France. Thesis: procedural clouds modeling.
Advisor: Fabrice Neyret.
With honors.
- 1999 – 2004 **M.Eng in Computer Science.**
École Supérieure d'Ingénieurs en Électrotechnique et Électronique (ESIEE), Noisy-le-Grand, France.
Academic projects: detection of anomalies in the carotid from scanner images (project leader), development an infrared remote controller for Windows.
With honors.

PROFESSIONAL EXPERIENCE

- 2004 – present **Researcher** (Ph.D candidate). Grenoble Universities, Grenoble, France.
Developed a volume light transport simulator for supercomputers. Developed new GPU algorithms for the real-time rendering of clouds. Created new algorithms for implicit surfaces triangulation.
- 2003 **Engineer** (intern). Fraunhofer Institut für Techno- und Wirtschaftsmathematik, Kaiserslautern, Germany.
Developed Very large 3D vector field visualization methods on supercomputers. Implemented 3D grayscale morphological operators in parallel.
- 2002 **Freelance developer.** Customer: Bayer SA, Paris, France.
Developed a network application sending messages from computers to pagers through an intuitive user interface.
- 2002 **Freelance developer.** Customer: Alias25, Brussels, Belgium.
Developed a plug-in for 3D Studio MAX, a 3D modelling software.
- 2001 **Software developer** (intern). Lexis Numérique, Champs-sur-Marne, France.
Integrated Havok, a physics engine, in a real-time 3D video game targeted on X-Box, Gamecube and Playstation 2. Created plug-in for 3D Studio MAX.
- 2000 – 2002 **Software developer.** Personal project.
Developed [Orion3D](#), a real-time object-oriented graphics rendering engine. Experienced teamwork, wide project management and state-of-the-art rendering techniques.

TECHNICAL SKILLS

OSes	Windows, Linux, HP/UX.
Languages	C++, Cg, GLSL, SQL, PHP, Java, Pascal, Basic, x86 Assembly.
APIs	OpenGL, MPI, 3DSMAX, Win32, STL, Boost, Renderware, Havok.
Software	3D Studio MAX, Drawbase, Visual Studio.

LANGUAGES

French	Native language
English	Fluent. TOEFL score: 640/677 (january 2003)

PUBLICATIONS

- A. Bouthors, F. Neyret, N. Max, E. Bruneton, C. Crassin, [Interactive multiple anisotropic scattering in clouds](#), In *Proceedings of ACM Symposium on Interactive 3D and Games (I3D)*, 2008.
- A. Bouthors, E. Bruneton, F. Neyret, N. Max, [Real-time subsurface scattering on the GPU](#), Research report, 2007.
- A. Bouthors, F. Neyret, N. Max, E. Bruneton, C. Crassin, [Rendu interactif de nuages réalistes](#), In *Proceedings of Journées de l'Association Francophone d'Informatique Graphique (AFIG)*, 2007.
- A. Bouthors, M. Nesme, [Twinned Meshes for Dynamic Triangulation of Implicit Surfaces](#), In *Proceedings of Graphics Interface*, 2007.
- M. Nesme, A. Bouthors, [Dynamic Triangulation of Implicit Surfaces: towards the handling of topology changes](#), INRIA report RR-6128, 2006.
- A. Bouthors, F. Neyret, S. Lefebvre, [Real-time realistic illumination and shading of stratiform clouds](#), In *Proceedings of the 3rd Eurographics Workshop on Natural Phenomena*, 2006.
- A. Bouthors, F. Neyret, [Modeling Clouds Shape](#), In *Proceedings of EUROGRAPHICS (short presentations)*, 2004.

Research interests: visual perception and cognition, GPU and parallel algorithms, computational geometry, photo-realistic and expressive rendering.

TEACHING EXPERIENCE & COMMUNITY SERVICE

- 2005 – 2007 **Supervised three M.Sc students** on rendering of clouds on GPU and implicit surfaces triangulation.
- 2005 – 2007 **Teaching assistant** at Institut National Polytechnique de Grenoble (INPG), France.
Computer Graphics, [GPU Programming](#). Lectures and practical courses, Graduate level.
Algorithms, Compilation, Advanced Networking. Lectures and practical courses, Undergrad level.
- 2005 – 2007 Involved in **scientific popularization** through scientific cafes.
- 2004 – 2006 **Student volunteer** for ACM SIGGRAPH and Eurographics conferences.
- 2003 – 2004 **Teaching assistant** at ESIEE, France.
Parallel programming, Computer Vision. Practical courses, Graduate level.
- 2000 – present Maintaining online entry-level [OpenGL tutorials](#) and demos.
- 2003 – 2004 **Private teacher**.
Mathematics, High school level.

GRANTS & FELLOWSHIPS

- 2006 **France-Berkeley Fund**. Fund supporting cooperation between France and University of California.
Institute of European Studies, UC Berkeley and Ministry of Foreign Affairs, France.
- 2006 **Exploradoc fellowship**. Grant program helping Ph.D students in starting international cooperation.
Rhône-Alpes region, France.
- 2004 – 2007 **MENRT**. Merit-based Ph.D grant.
Ministry of Research and Higher Education, France.

OTHER INTERESTS

- Sports Rock climbing, mountaineering, snowboarding, paragliding.
- Cultural Piano, guitar, drama.

REFERENCES

Fabrice Neyret, Researcher
INRIA Rhône-Alpes
655, av. de l'Europe
38334 Saint Ismier Cedex
France
Phone: +33 4 76 61 54 30
Fabrice.Neyret@imag.fr
<http://evasion.imag.fr/~Fabrice.Neyret/>

Nelson Max, Professor
Institute for Data Analysis and Visualization
2343 Academic Surge
University of California, Davis
1 Shields Ave. Davis, CA 95616
USA
Phone: +1 925 422 4974
max2@lnl.gov
<http://www.idav.ucdavis.edu/people/profile?pid=9>