Antoine Bouthors
Ph.D Candidate & Engineer

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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** trough 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
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