

ANTOINE AZAR

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<http://www.2xmlabs.com>

2XM Labs – Founder, Software consulting - www.2xmlabs.com [2008 – today]

- **Software consulting:** C, C++, C#, ObjectiveC, OpenGL, Direct3D, Shading Languages, ActionScript
 - **Fields of expertise:** Software development, software optimization, 3D graphics, 2D imaging, medical imaging, iPhone development
 - **Some of our clients:** Mozilla Corporation, Siemens Corporate Research, Umen Innovations, Keeneo, Oxfam, Tomovision, École Polytechnique de Montréal, etc
 - **Some of our projects:** Firefox 3, Firefox for mobile, Siemens medical imaging platforms, video surveillance, robotics imaging software, interactive media browsing, iPhone games, etc.
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EDUCATION

- **Computer/Biomedical Engineering Master's Degree** – University of Nice, France [2004 – 2005]
Awards: Ranked first of 2005 class (best GPA) - 16.5/20
Best Master's thesis & presentation of 2005 class - 18/20
Thesis: “Interactive Hybrid Non-Rigid Registration Framework for 3D Medical Images”.
In collaboration with Siemens Corporate Research, USA, and INRIA EPIDAURE, France.
- **Computer Engineering Bachelor's Degree** - École Polytechnique de Montréal [1999 – 2004]
Award: Da Vinci Excellence Award
Thesis: “GPU Visualization of a Numeric Simulation's Particle System”

PAST PROFESSIONAL EXPERIENCE

- **Artificial Mind & Movement (A2M)** – Senior Graphics Engine Developer, Montreal [2007 - 2008]
Research and development of advanced graphics and rendering technologies in C++/Direct3D for A2M's next-gen game engine. Platforms include PC, Xbox360 and PlayStation3.
- **Feeling Software (Startup)** – Software Consulting, Montreal [2006 – 2007]
Software consulting for clients such as **Ageia**, **Autodesk** and **Sony**. Development of a Collada-based C++/OpenGL 3D engine. Creative solutions to add new features and UI to software (Photoshop, 3ds max, Maya, etc) through plugins. Responsible of business development by applying 3D visualization technologies to new markets such as interior design, advertisement development, artistic workflow, etc.
- **Siemens Corporate Research** - Imaging and Visualization, Princeton [6 months/year, 2003-2006]
R&D in medical imaging. Software development in C++/OpenGL of large-scale 3D visualization, segmentation and registration projects, augmented reality systems and new interaction devices. Development of an interactive registration framework using an intuitive doctor-computer interface.
- **Massachusetts Institute of Technology** – BioInstrumentation Laboratory, Cambridge [2001]
Software R&D on the *NanoWalker's* behavior and communications systems - <http://www.nano.polymtl.ca/>
- **Discreet (Autodesk)** – Research & Development Division, Effects Team [2001]
C++/OpenGL for *Inferno*, highest-end special-effects software for film, cinema and broadcast.
- **Matrox Electronic Systems** – Imaging Division, Processing Team [2000]
Design and optimization of imaging algorithms and image processing functions using only inline assembly language with MMX & SSE Instruction Sets for the *Matrox Imaging Library*.

PUBLICATIONS

- Azar A., Xu C., Pennec. X, Ayache N., “**Interactive Hybrid Non-Rigid Registration Framework for 3D Medical Images**”, IEEE International Symposium on Biomedical Imaging 2006, Arlington, Virginia, 4 pages, April 2006
- Azar A., “**GPU-Based Displacement Mapping for Simulation Applications**”, IEEE Looking.Forward Magazine, Montreal, Canada, 8 pages, Spring 2004
- Martel S., Pelletier J., Fréchet A., Azar A., et al, “**Toward nanorobotics platforms for high-throughput biomedical applications at the nanometer-scale**”, Proceedings of the 2nd Joint IEEE-EMBS and BMES Conference, Houston, TX, USA, 2 pages, Oct. 23-26, 2002

AWARDS & NOMINATIONS

- **Expert member of Canada’s NSERC Biomedical Technologies Grants Panel** [2009]
- Finalist at the **2009 ARISTA excellence awards**, by the Jeune Chambre de Commerce de Montréal [2009]
- **Guest of honor at Forces Avenir 10th anniversary** – offered an award to Quebec’s Minister of Education, Michelle Courchesne [2008]
- Member of the jury for **Forces Avenir** [2008-2009]
- Board Member of SIGGRAPH Montreal [2008-2009]
- **Board Member of the Collège Brébeuf’s Alumni** [2008]
- **Guest speaker** at École Polytechnique for various events [2007-2009]
- **Member of the Jury for the 3rd IEEE Poly Annual Article Competition** [2008]
- **First place, International Virtual Reality competition** www.laval-virtual.org , France [2004]
- **Finalist at the Forces Avenir contest** (across 2000+ applicants), www.forcesavenir.qc.ca [2004]
- **Selected among the whole 2004 Polytechnique promotion by the board of directors** to address a speech at the **excellence awards ceremony** [2004]
- **Polytechnique’s team captain** for the North American Computer Science Games [2004]
- **Editor for IEEE’s Looking.Forward**, IEEE’s scientific magazine [2004]
- Nomination for the **Siemens President Award** [2003]
- “**Coupe Francophone des Affaires**” Entrepreneurship Award [1999]
- "YTV Achievement Awards Honoring Canadian Youth and Excellence" Nomination [1997]
- Honorary certificate at the **Waterloo Mathematics Contest** [1997]

LANGUAGES

- **Bilingual: French and English**, Spanish (intermediate)

SOCIAL

- Black Belt in Shotokan Karate and silver-medalist in the 2004 Quebec AKS competition.
- Advanced level in Latin dances. 10+ performances at various events throughout North America. Training with the 2008 LA Salsa Champions (Victor Contreras & Katia Morales).

MEDIA APPEARANCES

TV

- Interview at RDI News Network (national broadcast) for my nomination at the Forces Avenir contest.
- Interview for the École Polytechnique de Montréal promotional video

Newspapers and Magazines

- Forces Avenir 10th anniversary, with Quebec's Minister of Education, Michelle Courchesne, *Journal La Presse*
- Biography - Magazine le Poly, Hiver 2008 – « Créer tout ce que l'on peut imaginer »
Electronic copy : <http://www.antoineazar.com/articlePoly.jpg>
- Biography - Forces Avenir contest (millions of copies across Canada)
La Presse, Le Droit, Le Nouvelliste, Le Quotidien, La voix de l'Est, La Tribune, Le Soleil
- Da Vinci Award Publication (6000 copies)
Electronic copy: http://www.polymtl.ca/devinci/Profil_De_Vinci_final_opti.pdf

Web - General

- Numerous media appearances of project Cliclivres, including Réseau Canoë's "Coup de coeur", multiple blogs, schools, associations, and organisations for education, lifestyle, or environment.

Web - École Polytechnique de Montréal's website

- "Three finalist projects from Polytechnic at Forces Avenir"
<http://www.polymtl.ca/carrefour/cms/apercu.php?NoDocument=1738>
- "Polytechnic wins first prize at Laval Virtual 2004"
http://www.polymtl.ca/carrefour/cms/aper_archive.php?NoDocument=1707&tome=60
- "IEEE's Looking Forward electronic magazine launched at Polytechnic"
http://www.polymtl.ca/carrefour/cms/aper_archive.php?NoDocument=1662&tome=59
- "Six Polytechnic Students Selected for Internships at MIT"
<http://www.polymtl.ca/affpub/sc/amit.php>