Cédric Zanni
3 Rue Condorcet
38000 Grenoble
Tel: 06 77 29 95 81
e-Mail : zanni.cedric@gmail.com

driving license

PhD   *(Computer Graphics)*
Ensimag engineer / Master in Applied mathematics

Application to Post-Doctoral researcher position

Training

2010 – 2013	**PhD in Computer Graphics:** specialty mathematics-informatics
	Laboratoire Jean Kuntzmann / Inria Grenoble (team Imagine) , France
	Suject : *Skeleton-based implicit modeling & Applications*
	Thesis adviser: Marie-Paule Cani
	Comity members: Karan Singh *(reviewer)*, Loïc Barthe *(reviewer)*,
	Brian Wyvill, Evelyne Hubert, George-Pierre Bonneau
2009 – 2010	**Master 2 Research: Applied mathematics :** with honors
	Université Joseph Fourier (UJF), France
2007 – 2010	**Ensimag engineer:** with honors
	3th year : Modeling, Imaging and Scientific computation
	Ecole Nationale Supérieure d'Informatique et de Mathématiques Appliquées de Grenoble (Ensimag)
2005 – 2007	**Math Sup/Math Spé :** Classe Préparatoire aux grandes écoles, Lycée la Martinière Monplaisir (Lyon)
2005	**Baccalauréat** Scientific, math specialization, with honors in lycée de la Plaine de l'Ain

Professional experience

Young researcher (Post-doctorat), LJK/Inria (team IMAGINE)   *Montbonnot: 2014 (6 months)*

- Research work on implicit surfaces
- Development of a C++ library for implicit surfaces

Young researcher (Doctoral student), LJK/Inria (team IMAGINE)   *Montbonnot: 2010-2013 (3,5 years)*

- Research work in geometric modeling (specialization in implicit surfaces)
- Development of a C++ library for implicit surfaces and of a 3D modeling application
- Supervision of summer interns (1 per year)
    ◦ Yannick Leo, Blending control for convolution surfaces, application to virtual plant modeling, 2011
    ◦ Cléobulo Sales Neto, Interface development for non-realistic manga hair style creation and animation, 2012
    ◦ Antoine Bardonnet, Fast modeling of organic forms: development of the "1D curves" part of *convol* library 2013
- Reviewing for conferences et scientific journals
    ◦ Conference : Computer Graphic Forum (CGI 2012), Shape Modeling International (SMI 2013)
    ◦ Journal : Transaction on Graphics (TOG), Computational Geometry Theory and Applications (CGTA)

Young researcher (Master project), LJK/Inria (team EVASION)   *Montbonnot: 2010 (5 months)*

- Computer graphics
- **Topic** : Convolution surfaces generated by a graph of curves : Applications to the modeling of volumetric hair

Young Engineer (in internship), MSC worldwide   *Vourles: 2009 (3 months)*

- R&D department, Image analysis
- **Topic** : Development of an analysis algorithm of items made of hollow glass

Publications

Warp-based helical implicit primitives   *Presented at SMI'2011*
C. Zanni, E. Hubert, and M.-P. Cani.
Computer & Gaphics, volume 35:3 (2011)

Geometric Details on Skeleton-based Implicit Surfaces   *Presented at EG'2012*
C. Zanni, P. Bares, A. Lagae, M. Quiblier, and M.-P. Cani.   *(short paper)*
EG 2012 - Short Papers. Eurographics Association, 2012.

Surfaces Implicites Homothétiques   *Presented at AFIG'2012*
C. Zanni, A. Bernhardt, M.-P. Cani and M. Quiblier.
REFIG, volume 7:1 (2013)

SCALe-invariant Integral Surfaces   *Presented at EG'2014*
C. Zanni, A. Bernhardt, M.-P. Cani and M. Quiblier.
Computer Graphic Forum, volume 32:8 (2013)

N-ary Implicit Blends with Topology Control   *Presented at SMI'2014*
C. Zanni, M. Gleicher, and M.-P. Cani.
Computer & Gaphics (to appear)

Teaching

2010-2011	**CPP**	*TP : introduction to computer science (BAC+1, CaML) : 22h*
	GI	*TP programming (BAC+3, JAVA) : 15h*
	Ensimag	*Software project in C (BAC+3, implementation of a jpeg decoder) : 24h* *Algorithms & data structures (courses/TD) : 3h (BAC+3, replacement)*
2011-2012	**CPP**	*TP : introduction to computer science (BAC+1, CaML) : 22h*
	Ensimag	*TD : Mathematical analysis for the engineer (BAC+3) : 18h* *Project "Assessment of structured product" (BAC+5, ASP.NET, C#, C++, LinqToSql) : 24h*
2012-2013	**Ensimag**	*TD : Mathematical analysis for the engineer (BAC+3) : 18h* *Geometric modeling (BAC+4, TD/TP) : 18h* *Project "Assessment of structured product" (BAC+5, ASP.NET, C#, C++, LinqToSql) : 18h*

Scholar projects

Programming the rendering phase of a vectorial drawing tool (research orientation, C++, work in pairs)   *June 2009 (3 weeks)*

Initiation to research in laboratory (Modeling a mechanical system with law of Coulomb, C++)   *January-May 2009 (1 week)*

Implementation of a compiler (Team work, ADA, Compiling and formal language theory)   *January 2009 (1 month)*

Implementation of a MIPS assembler (Team work, C programming)   *June 2008 (4 weeks)*

Skills

Informatics
- **Programming:** C, C++, JAVA, ADA, ASP.NET, C#, CaML, SQL, (Visual Basic, Assembleur)
- **Mathematical tools:** Maple, Matlab/Scilab
- **OpenGL, GLSL, Eigen, QT, Ogre, OpenMesh**
- **IDE :** QtCreator, Visual Studio
- **Operating system :** MacOsX, Ubuntu, Windows

Base knowledge :

Informatics
- Computer graphics (shaders, shadow & environnement mapping, ray tracing, procedural noise, …)
- Concurrent computing, relational database management system
- Algorithmic, logic, formal language theory, graph theory
- Low level knowledge (architecture, compiling, …)

Mathematics
- Modeling with implicit surfaces (convolution surfaces, blending method, meshing method)
- Parametric curve and surfaces (Bézier, B-Splines, …), subdivision surfaces, mesh simplification
- Partial differential equation (finite differences, finite elements, model coupling)
- Inverse method and data assimilation (adjoint method, Kalman filter)
- Images processing, linear algebra, optimization, probability, statistics

Language

- **English:** Operational, 975 to TOEIC
- **Espagnol:** Basic notions (to revive)

References

Marie-Paule Cani, Professeur Grenoble INP,   *Email :* **marie-paule.cani@inria.fr**   *tél : (+33)4 76 61 54 32*
Karan Singh, Professor University of Toronto,   *Email :* **karan@dgp.toronto.edu**   *tél : (416) 978-7201*
Loïc Barthe, Associate professor at Université Paul Sabatier,   *Email :* **loic.barthe@irit.fr**   *tél : (+33)5 6155 6312*
Brian Wyvill, Professor at University of Victoria,   *Email :* **blob@cs.uvic.ca**
Maxime Quiblier, Skimlab(CEO), Engineer,   *Email :* **max@skimlab.com**

Interest

Sport : Hiking, Volley-Ball, Footing
Hobby: Drawing, Painting and sculpting of figurines, Books, Movies