Résumé of Miguel Sainz

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Professional Goals

To work in a production environment developing tools and new technologies in the areas of computer graphics and image processing.

Education

1999 - 2003 **University of California, Irvine**. Ph.D. in Electrical and Computer Engineering.

1988 - 1996 **Technical University of Catalonia (UPC)**, **Barcelona, Spain**. M.Sc. and B.Sc. in Electrical Engineering with major in power electronics.

Work Experience

07/04 - pres. **Developer Technology Engineer**. NVIDIA Corporation, European Division. Providing technical support to developers on graphics and NVIDIA hardware

07/03 - 07/04 **Postdoctoral Researcher**. School of Information and Computer Science, University of California, Irvine. Researching and teaching in computer graphics and computer vision.

09/99 - 07/03 **Graduate Research Assistant**. Electrical and Computer Engineering Dept., The Henry Samueli School of Engineering, University of California, Irvine, CA. Researching on Image Based Modeling and Rendering techniques.

12/98 - 07/99 **Java Instructor**, Training Services Department of Sun Microsystems, Barcelona, Spain. Teaching on-site programming courses for IT companies.

09/98 - 01/99 **Instructor**. Multimedia engineering, computer graphics and virtual reality. Center for Integration of Technologies and Media (CiTEM), La Salle School of Engineering, Ramon Llull University, Barcelona, Spain. Researching and teaching in computer graphics

03/98 - 09/98 **Research Engineer**. Technical University of Catalonia (UPC), Computer Graphics Section, Barcelona, Spain. Developing Computer Graphics projects for industrial partners.

07/96 - 01/98 **Research Engineer**, Technical University of Catalonia (UPC), Robotics and Informatics Institute, Barcelona, Spain. Developing Computer Vision projects for industrial partners.

01/93 - 06/96 **Research Student**, Cybernetics Institute (IC), Barcelona, Spain. Researching in Computer Vision.

Domains of Expertise

Extensive experience in the following areas:

- **realtime** and **offline rendering** and game engine programming
- **GPU shading** programming in assembly and **Cg**
- advanced **OpenGL**.
- Image processing
- **3D Computer Vision**: tracking, camera calibration, scene reconstruction.

- Java, Python, **C/C++**
- UNIX and Windows system programming.
- Network programming.

Selected Publications

Sainz M., Pajarola R., *Point-Based Rendering Techniques*. Elsevier Journal of Computer and Graphics (C&G), to appear on Special Issue on Point Based Graphics.

Sainz M., Pajarola R., Susin T. and Mercade A., *A Simple Approach for Point-Based Object Capturing and Rendering*. IEEE Journal of Computer Graphics and Applications (CG&A), vol. 24(4):24-33, 2004.

Pajarola R., Sainz M. and Guidotti P., *Confetti: Object-Space Point Blending and Splatting*. IEEE Transactions on Visualization and Computer Graphics (TVCG), to appear.

Pajarola R., Sainz M. and Meng Y., *DMesh: Fast Depth-Image Meshing and Warping*. International Journal of Image and Graphics (IJIG), 4(4):1-29, 2004.

Sainz M., Susin A. and Bagherzadeh N., *Camera Calibration of Long Image Sequences with the Presence of Occlusions*. In Proceeding of the International Conference in Image Processing 2003 (ICIP'03), Barcelona.

Sainz M., 3D Modeling from Images and Video Streams. PhD. Thesis, University of California Irvine, July 2003.

Professional Activities

- Member of IEEE, IEEE Computer Society, ACM and ACM Siggraph.
- Technical Committee of the IASTED Computer Graphics And Imaging Conference.
- Reviewer of the IEEE Computer Graphics and Applications Journal.
- Reviewer of the IEEE Visualization'04 Conference.
- Reviewer of the ACM Siggraph'04 Conference.
- Reviewer of the Eurographics'04 Conference.
- Reviewer of the Elsevier Journal of the Image and Vision Computing (IMAVIS).

Patents and Copyrights

D'Zmura M., Hagedorn J. and Sainz M. *Jericho Displays. A window graphical user interface for 3D games and virtual environments*. Copyright 2001. University of California, Irvine.