

Alejandro Troccoli

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EDUCATION

Columbia University, New York, NY

Ph.D. in Department of Computer Science (expected) May 2006

Dissertation: Image registration and texture recovery in outdoor scenes

Advisor: Peter Allen

M.S. in Computer Science February 2002

Universidad de Buenos Aires, Buenos Aires, Argentina

M.S. in Computer Science June 2001

B.S. in Computer Science December 1999

AWARDS

Student Research Fellowship (Beca Estimulo) Universidad de Buenos Aires, Argentina 2000-2001

Advisor: Gabriel Wainer

FOMEC Scholarship Universidad de Buenos Aires, Buenos Aires, Argentina, 2001.

Provides funds for short term visits to academic institutions outside Argentina.

Georgia Rotary Student Program Scholarship 1995-1996

A scholarship for international students to attend a college in the state of Georgia for one year.

Attended the University of Georgia, Athens, GA.

RESEARCH EXPERIENCE

Columbia University, New York, NY

Doctoral Student Fall 2001 - present

Conducting research in recovering texture attributes of outdoor scenes from 3D scans and photographs. Developed a method to obtain illumination consistent textures of diffuse surface of outdoor scenes, an algorithm for image registration based on the shadows cast by the sun, and a software tool for semi-automatic image registration of architectural scenes. Took part of three scanning field trips: in June 2002 to Beauvais, France; in July 2003 to Mt. Polizzo, Sicily, invited by a team of archaeologists from Stanford University; and in June 2004 to Kruger National Park, in South Africa, to scan the ruins of Thulamela. This work is funded by an NSF ITR grant for building Computational Tools for Modeling, Visualizing and Analyzing Historical and Archaeological Sites.

Carleton University, Ottawa, Canada

Visiting scholar in the Real-time and distributed systems group - Winter 2001

Implemented a distributed simulation tool based on Parallel-Cell DEVS, a discrete event cellular automata formalism. Designed and implemented a messaging protocol for synchronization among computing nodes.

Universidad de Buenos Aires, Buenos Aires, Argentina

M.S. thesis. Worked in building a tool for distributed simulation of Parallel-Cell DEVS models. Part of this work was developed while visiting Carleton University, under the supervision of Dr. Gabriel Wainer.

TEACHING EXPERIENCE

Graduate Instructor Columbia University, New York, NY

Programming Languages C, Programming Languages C++, Programming Languages Java

Teaching assistant Universidad de Buenos Aires, Buenos Aires, Argentina

Computer Organization 1998–2001

PUBLICATIONS

Alejandro Troccoli and Peter Allen. “Relighting acquired models of Outdoor scenes.” *In 3DIM’05 (submitted)* (2005).

Peter Allen, Steve Feiner, Alejandro Troccoli, Hrvoje Benko, Edward Ishak, and Benjamin Smith. “Seeing into the past: Creating a 3D modeling pipeline for archaeological visualization.” *In Proceedings of 2nd International Symposium on 3D Data Processing, Visualization and Transmission* (2004).

Alejandro Troccoli and Peter K. Allen. “A Shadow Based Method for Image to Model Registration.” *In 2nd IEEE Workshop on Image and Video Registration, CVPR’04* (2004).

Peter K. Allen, Steve Feiner, Lynn Meskell, Ken Ross, Alejandro J. Troccoli, Hrvoje Benko, Edward Ishak, Benjamin Smith, and James Conlon. “Digitally modeling, visualizing and preserving archaeological sites.” *In JCDL ’04: Proceedings of the 4th ACM/IEEE-CS joint conference on Digital libraries*, pp. 389–389 (ACM Press, 2004).

Peter K. Allen, Alejandro Troccoli, Benjamin Smith, Stephen Murray, Ioannis Stamos, and Marius Leordeanu. “New Methods for Digital Modeling of Historic Sites.” *IEEE Comput. Graph. Appl.* **23**, 32–41 (2003).

Peter Allen, Ioannis Stamos, Alejandro Troccoli, Benjamin Smith, M. Leordeanu, and Y.C. Shu. “Modeling Historic Sites using Range and Image Data.” *In Proceedings of ICRA 2003* (2003).

Peter Allen, Alejandro Troccoli, Benjamin Smith, Ioannis Stamos, and Stephen Murray. “The Beauvais Cathedral Project.” *In Workshop on Applications of Computer Vision in Archaeology, in CVPR’03* (2003).

Alejandro Troccoli and Gabriel Wainer. “Implementing Parallel Cell-DEVS.” *In ANSS ’03: Proceedings of the 36th annual symposium on Simulation*, p. 273 (IEEE Computer Society, 2003).

Alejandro Troccoli, Javier Ameghino, Fernando In, and Gabriel Wainer. “A Flow Injection Model Using Cell-DEVS.” *In ANSS ’02: Proceedings of the 35th Annual Simulation Symposium*, p. 292 (IEEE Computer Society, 2002).

Gabriel Wainer, Sergio Daicz, and Alejandro Troccoli. “Experiences in modeling and simulation of computer architectures in DEVS.” *Trans. Soc. Comput. Simul. Int.* **18**, 179–202 (2001).

Alejandro Troccoli and Gabriel Wainer. “Performance analysis of Cellular Models with Parallel Cell-DEVS.” *In Proceedings of the SCS Summer Simulation Conference* (2001).

Javier Ameghino Alejandro Troccoli and Gabriel Wainer. “Models of Complex Physical Systems Using Cell-DEVS.” *In ANSS ’01: Proceedings of the 34th Annual Simulation Symposium*, p. 266 (IEEE Computer Society, 2001).

Sergio Daicz, Alejandro Troccoli, and Sergio Zlotnik. “Using the DEVS paradigm to implement a simulated processor.” *In ANSS ’00: Proceedings of the 33rd Annual Simulation Symposium* (2000).

PRESENTATIONS

“Texture Registration and Processing for Photo Realistic 3D Modeling” in 2003 IBM Research Graphics and Visualization Symposium

OTHER EXPERIENCE

- ◇ 1999 - 2001: Freelance application developer
- ◇ 1997 - 1999: Part time software developer at Tecnologia y Sistemas - Argentina
- ◇ 1994 - 1997: Part time employee at Organizacion Veraz-Equifax Argentina.

LANGUAGES

Fluent in Spanish and English, basic spoken and written skills in French