

RAFAEL ALVES ROBERTO

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OBJECTIVE

Develop augmented reality solutions to enrich the way people experience the world.

PROFILE

Is a Master in Computer Science and graduated in Computer Engineer, both of them at Informatics Center of Federal University of Pernambuco. Has research experience with augmented reality, 3D reconstruction and computer vision.

EXPERIENCE

RESEARCHER, VOXAR LABS; RECIFE/PE — SINCE 2011

Working in the expansion and improvement of a markerless augmented reality framework. Conducting a research on spatial augmented reality for educational use. Doing minor managerial activities.

RESEARCHER, VIRTUAL REALITY AND MULTIMEDIA RESEARCH GROUP; RECIFE/PE — 2008-2011

Worked in the development of a dense 3D reconstruction framework from images. Conducted research with a multidisciplinary team on spatial augmented reality for educational use. Also participated on a 3D projector mapping research.

EDUCATION

GRADUATION, FEDERAL UNIVERSITY OF PERNAMBUCO; RECIFE/PE — 2004-2009

Graduated on Computer Engineering for UFPE with the undergraduate work "Cylindrical rectification: an efficient method to rectify a stereo image pair". During the graduation period was a mentor on Linear Algebra, a volunteer on a university extension project and conducted a research during a scientific initiation program about animation based on motion capture. Also participated in the project of designing and develop a digital media receiver and the development of a multi-touch surface for entertainment purpose.

MASTER, FEDERAL UNIVERSITY OF PERNAMBUCO; RECIFE/PE — 2010-2012

Master on Computer Science for UFPE with the subject "Development of a projective augmented reality system with application in education". During the master research developed a platform for educational activities and an interface for a low cost interactive whiteboard.

SKILLS

Code with C/C++, Action Script, Java and basic knowledge of Python and Objective C.
Have intermediate experience with the libraries OpenCV, VXL, CGAL OpenGL and Qt.
Use Visual Studio and Eclipse as IDE, as well as Matlab.

SCIENTIFIC PRODUCTION

ARTICLES IN SCIENTIFIC JOURNALS

ROBERTO, R. A.; SANTOS, A. G.; TEICHRIEB, V.; KELNER, J.. "Polar rectification: an effective method for rectifying pairs of images and generate robust dense reconstruction" in REIC: Revista Eletrônica de Iniciação Científica (Online), v. II, p. 1, 2010.

COMPLETE WORKS PUBLISHED IN PROCEEDINGS OF CONFERENCES

ROBERTO, R. A.; TEICHRIEB, V.; KELNER, J.. "Cylindrical Rectification: an efficient method to rectify a stereo image pair" in Proceedings of the XXII Brazilian Symposium on Computer Graphics and Image Processing, 2009, Rio de Janeiro.

ROBERTO, R. A.; FREITAS, D. Q. F.; LIMA, João Paulo; TEICHRIEB, V.; KELNER, J.. “ARBlocks: A Concept for a Dynamic Blocks Platform for Educational Activities” in Proceedings of the XIV Symposium on Virtual and Augmented Reality, 2011, Uberlândia.

RESEARCH DEMONSTRATION AT CONFERENCES

ROBERTO, R. A.; TEICHRIEB, V.. “ARBlocks: A Projective Augmented Reality Platform for Educational Activities” in Proceedings of the XIX IEEE Virtual Reality Conference, 2012, Orange County.

SHORT COURSE TAUGHT

TEIXEIRA, Joao Marcelo; SIMOES, F. P. M.; ROBERTO, R. A.; TEICHRIEB, V.; KELNER, J.. “3D reconstruction using structured lights” at XIII Symposium on Virtual and Augmented Reality, 2010, Natal.

ROBERTO, R. A.; TEIXEIRA, Joao Marcelo; LIMA, João Paulo; SILVA, M. M. O.; ALBUQUERQUE, E. S.; ALVES, D. F. M.; TEICHRIEB, V.; KELNER, J.. “Educational Games Based on Augmented Reality and Tangible User Interface” at IX Simpósio Brasileiro de Jogos e Entretenimento Digital, 2010, Florianópolis.

ROBERTO, R. A.; TEIXEIRA, Joao Marcelo; LIMA, João Paulo; SILVA, M. M. O.; ALBUQUERQUE, E. S.; ALVES, D. F. M.; TEICHRIEB, V.; KELNER, J.. “Educational Games Based on Augmented Reality and Tangible User Interface” at XIV Symposium on Virtual and Augmented Reality, 2011, Uberlândia.

FIGUEIRADO, L. S.; SOUZA, P. A. F.; SIMOES, F. P. M.; ROBERTO, R. A.; TEICHRIEB, V.. “Natural Interaction with Hand Tracking” at XV Symposium on Virtual and Augmented Reality, 2012, Rio de Janeiro.

SCIENTIFIC PAPER REVIEWER

XIV Symposium on Virtual and Augmented Reality, 2011

IEEE Symposium on 3D User Interfaces, 2012

AWARDS AND HONORS

II COMPUTER PROBABILITY OLYMPIAD

Third place.

XXII BRAZILIAN SYMPOSIUM ON COMPUTER GRAPHICS AND IMAGE PROCESSING

Third best paper at the workshop of undergraduate works.

LAYAR CREATION CHALLENGE

Lead the team that created the third best concept application.

REFERENCES

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