

# RAFAEL ALVES ROBERTO

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I am a Ph.D. in Computer Science at the Informatics Center of Federal University of Pernambuco. Currently, I am a researcher at Voxar Labs, where I study tracking and SLAM on mobile devices.

## EXPERIENCE

### Voxar Labs

#### Researcher

June 2011 – present

I am currently researching computational photography and the use of depth sensor for SLAM on mobile devices. Former projects include:

- Leader researcher of the face tracking team in an augmented reality project for LGE;
- Consultant on a mobile AR/VR project for CIn/Samsung;
- Developer of mobile AR applications;
- Studied the use Google Glass for AR;
- Leader in a project to develop a spatial AR system for educational purpose;
- Member of the Voxar Labs team in 2012, 2014 and 2015 ISMAR Tracking Competition.

### Virtual Reality and Multimedia Research Group

#### Researcher

May 2008 – June 2011

As a researcher, I worked in the development of an image based dense 3D reconstruction framework, in a research on spatial augmented reality for educational purpose.

## EDUCATION

### Federal University of Pernambuco

#### Ph.D. Candidate in Computer Science

March 2014 – June 2018

Ph.D. in computer science with the subject "Incremental Semantic Tracking on Mobile Devices".

### Federal University of Pernambuco

#### M.Sc. in Computer Science

March 2010 – February 2012

M.Sc. in computer science at Federal University of Pernambuco with the subject "Development of a projective augmented reality system with application in education".

### Federal University of Pernambuco

#### B.S. in Computer Engineering

October 2004 – June 2009

B.S. in computer engineering with the work "Cylindrical rectification: an efficient method to rectify a stereo image pair". I was also a teacher assistant on linear algebra and a junior researcher to develop a low-cost motion capture system.

## SKILLS

### Programming Languages

C/C++, Java, Java for Android and basic knowledge of ObjectiveC, Python, C#.

### Programming Libraries

OpenCV, VXL, and basic knowledge of CGAL OpenGL, Qt and Surface SDK.

### Programming Environment

Visual Studio, Eclipse, Android Studio, XCode and Matlab.

### Personal

Fluent in Portuguese (native language). Academic and working proficiency in English.

## ACADEMIC PRODUCTION

### Research Papers

I am the author of papers on journals and events on augmented reality and computer vision, such as Computers & Graphics, ICRA, WACV, SIBGRAPI and SVR. I have also presented research demos at IEEE-VR, posters at ISMAR and workshop papers at IEEE-VR. The full list of publication is available on my portfolio website.

### Paper Reviewer

I was a reviewer for SVR (2011 and 2013), 3DUI (2012), VRST (2012), IEEE-VR (2013), ISMAR (2013 to 2018) and TVCG

### Student Volunteer

I was a student volunteer at IEEE-VR (2012) and ISMAR (2012).

## AWARDS AND HONORS

**3rd Best Undergraduate Work** in SIBGRAPI Workshop of Undergraduate Works, *Nov. 2009*.

**3rd Best Conceptual Application** in Layar Creation Challenge, *Oct. 2011*.

**Best Paper** in Symposium on Virtual and Augmented Reality (SVR), *May 2013*.

**Best Conceptual Application** in Metaio Developer Contest (category Got HeARt), *Sep. 2013*.

**1st Place** in 2015 ISMAR Tracking Competition (Off-site category: level 3), *Oct. 2015*.