

## Eduardo Henrique de Mesquita Rodrigues

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### EDUCATION

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Universidade Federal de Pernambuco, Campus Recife  
Undergraduate Student in Computer Science  
December/2018

### WORK EXPERIENCE

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- 3/16 - Present      Voxar Labs  
Researcher/Software Developer  
Academic research focused in natural interaction, 3D interaction, multiple target tracking, computer graphics, computer vision, AR and VR (C++/Unity/C#)  
Site link: <http://www.cin.ufpe.br/~voxarlabs/>
- 8/15 - 2/16      SUATI  
Software Engineer (Intern)  
Refactoring of the data layer code (C#)  
Implementation of new features on the company's major product (C#)  
Site link: <http://www.suati.com.br/>
- 3/15 - 2/16      Young Talents for Science  
Researcher/Software Developer  
Academic research program where I created a computer vision algorithm using openCV to count bat populations using statistical approaches (C++)  
Site link: <http://jovenstalentos.capes.gov.br/>

### TECHNICAL SKILLS

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#### Programming Languages:

C# and C++	Experienced Programmer
Python	6 months
Java	6 months
SQL	6 months

#### Tools/Libraries:

Unity Engine  
OpenCV  
OpenGL

#### Applications:

Visual Studio  
GIT  
Terminal  
Team Foundation Server  
Eclipse

## MAJOR PROJECTS

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spring 2017	<p>Mixed Reality TVs: This project address the interactivity with Smart TVs by using body gestures combined with the visualization modification through the Motion Parallax effect. This application is capable to fully calibrate the TV virtual environment with the real world, so the TV becomes a Mixed Reality display, showing its content coupled with the real world providing the user a new set of interaction techniques such as visually pinpoint and touch the virtual items of a TV menu by using metaphors based on natural physical interactions such as collisions, lights, shadows and magnetic attractions. (Unity/C#)</p> <p>Link: <a href="https://www.youtube.com/watch?v=l3RxxGjEnvI">https://www.youtube.com/watch?v=l3RxxGjEnvI</a></p>
Fall 2016	<p>Unity Editor Tools: I have created a set of editor scripts with the things that I am learning about Editor Scripting. (Unity/C#)</p> <p>Link: <a href="https://github.com/eduardohmrodrigues/UnityEditorTools">https://github.com/eduardohmrodrigues/UnityEditorTools</a></p>
Fall 2016	<p>UnityRTGI: A script for Unity Engine where the user can import .obj extension files in execution time without the need of compiling the asset when the project is build. You just have to enter with the link of the .obj file and the script will download it and render it on the scene. It also works with local files. (Unity/C#)</p> <p>Link: <a href="https://github.com/eduardohmrodrigues/UnityRTGI">https://github.com/eduardohmrodrigues/UnityRTGI</a></p>
Summer 2016	<p>MONO: (In Progress) A game jam project that is a puzzle/platform game where the player changes the world colors between black and white to overcome the proposed challenges. (Unity/C#)</p> <p>Link: <a href="https://github.com/eduardohmrodrigues/MONO">https://github.com/eduardohmrodrigues/MONO</a></p>
Spring 2016	<p>x:pression: (In Progress) A computer vision algorithm that make a real time tracking of the user's face and detect the user's actual emotion based on the extracted features. (C++/CLM-Framework)</p> <p>Link: <a href="https://github.com/eduardohmrodrigues/x-expression">https://github.com/eduardohmrodrigues/x-expression</a></p>
Summer 2016	<p>S.I.R.A.C: A computer vision algorithm that track bats in a clutter environment to account the population of their colony. The algorithm is able to start detections, treat wrong or lost detections and process the detections in progress. A 3D viewer was also implemented in order to help the analysis of the tracked flights by researchers in areas like biodiversity and biology. (C++)</p> <p>Link: <a href="https://www.youtube.com/watch?v=zpXMxKJCMdU&amp;list=PLHdX4iz53ZAU38lchIYPEJa5X-Zp1Y8oZ">https://www.youtube.com/watch?v=zpXMxKJCMdU&amp;list=PLHdX4iz53ZAU38lchIYPEJa5X-Zp1Y8oZ</a></p>
Fall 2015	<p>Features Extractor: A computer vision algorithm using OpenCV library that extract features of a given texture, capture the webcam image in real time, find the texture as a surface on the image, calculate the pose of the detected surface and project a 3D object on the surface using the texture as an AR marker. (C++)</p> <p>Link: <a href="https://github.com/eduardohmrodrigues/FeaturesExtractor">https://github.com/eduardohmrodrigues/FeaturesExtractor</a></p>
Fall 2015	<p>3D Render: Basic rendering program of a 3D world with an object loader for .obj extension files using OpenGL. (C++)</p> <p>Link: <a href="https://github.com/eduardohmrodrigues/3D-Render">https://github.com/eduardohmrodrigues/3D-Render</a></p>

## PUBLICATIONS

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- Scientific Article      Mixed Reality TVs: Applying Motion Parallax for Enhanced Viewing and Control Experiences on Consumer TVs  
Eduardo Rodrigues; Lucas Silva Figueiredo; Lucas Maggi; Edvar Neto; Layon Tavares; João Marcelo Teixeira; Veronica Teichrieb  
2017 19th Symposium on Virtual and Augmented Reality (SVR)  
DOI: 10.1109/SVR.2017.48  
IEEE Conference Publications
- Scientific Article      Multi-objective Tracking Applied to Bat Populations  
Eduardo Rodrigues; João Marcelo Teixeira; Veronica Teichrieb; Enrico Bernard  
2016 XVIII Symposium on Virtual and Augmented Reality (SVR)  
Pages: 155 - 159, DOI: 10.1109/SVR.2016.35  
IEEE Conference Publications

## **AWARDS AND LEADERSHIP**

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2nd place in CodeCup Hackaton, July 2016  
1st prize in CodeCup Hackaton, June 2015  
Teaching assistant of algebra for computing class, September 2014  
Teaching assistant of programming introduction class, January 2014