Ricardo Rossiter Barioni

PERSONAL DETAILS

Birth	April 22, 1996
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EDUCATION

M.Sc. in Computer Science — Aug 2018 - Jul 2020
Federal University of Pernambuco (UFPE), Recife, Brazil

B.Sc. in Computer Science — Apr 2014 - Jul 2018
Federal University of Pernambuco (UFPE), Recife, Brazil

PUBLICATIONS

HuTrain: a Framework for Fast Creation of Real Human Pose Datasets — Jul 2020
Poster (accepted for publication) *at 2020 21st International Symposium on Mixed and Augmented Reality (ISMAR)*

Songverse: a music-loop authoring tool based on Virtual Reality — Jul 2020
Extended Paper (accepted for publication) *at 2020 11st Journal on Interactive Systems (JIS)*

Usability and effects of text, image and audio feedback on exercise correction during augmented reality based motor rehabilitation — Sep 2019
Elsevier Computer & Graphics (C&G) Special Issue *at 2019 21th Symposium on Virtual and Augmented Reality (SVR)*

BalletVR: a Virtual Reality System for Ballet Arm Positions Training — Aug 2019
Full paper *at 2019 21th Symposium on Virtual and Augmented Reality (SVR)*

Songverse: a music-loop authoring tool based on Virtual Reality — Aug 2019
Full paper *at 2019 21th Symposium on Virtual and Augmented Reality (SVR)*

Human Pose Tracking from RGB Inputs — Aug 2018

Full paper *at 2018 20th Symposium on Virtual and Augmented Reality (SVR)*

ARkanoidAR 2.0: Otimizações em uma solução de realidade aumentada com base em testes de usabilidade Aug 2018
Poster *at 2018 26th Congresso Brasileiro de Engenharia Biomédica (CBEB)*

ARkanoidAR: an Augmented Reality System to Guide Biomechanical Movements at Sagittal Plane Jun 2017
Full paper *at 2017 19th Symposium on Virtual and Augmented Reality (SVR)*

EXPERIENCE

Academic Research Jan 2018 - Ongoing
Voxar Labs, Recife, BR

Academic researches focused in natural interaction and machine learning.
Technique enhancement of human pose estimation methods from RGB inputs.

Academic Research Mar 2019 - Ongoing
CIn Projeto Samsung, Recife, BR

Enhancement of user experience on extended realities, in collaboration with Voxar Labs.

Academic Research Jul 2017 - Mar 2019
CIn Projeto Samsung, Recife, BR

Enhancement of computer vision's state of art methods, in collaboration with Voxar Labs.

Undergraduate Research Aug 2016 - Nov 2017
Voxar Labs, Recife, BR

Academic researches focused in natural interaction and augmented reality.
Technique enhancement of therapeutic exercise orientations on augmented reality applications using biomechanical gestures recognition and functional gestures recognition methods exploration.

Undergraduate Research May 2017 - Jun 2017
Voxar Labs, Recife, BR

Academic researches focused in data visualization.
Development of a web tool for analyzing bat populations from thermal images obtained on caves.

PROJECTS

BalletVR 2019

This system is a virtual reality application for guiding ballet dancers through learning and practicing basic ballet arm positions. By using a Microsoft Kinect for tracking the dancer's performed poses, the system compares them with basic arm positions, proposed by École Française, and allows the dancer to practice autonomously.

Musical Invaders 2018

Based on the original 1978 arcade shooting game called Space Invaders, it is a web game where the player controls a spaceship, whose objective is to prevent aliens to reach earth by shooting musical notes. Not only fun, but Musical Invaders also encourages players to be creative by improvising new melodies while playing.

BatVis 2017

This project is a web application for visualizing bats tracking data obtained from thermal images in caves. This application is able to provide insights, such as changes in bats populations and flight behavior, in a more intuitive fashion, which can be used to the biomonitoring of population tendencies, habitat use and the effects of climate change.

ARkanoidAR 2017

This project is an augmented reality system that guides physiotherapy patients through the rehabilitation process of biomechanical movements at the sagittal plane. The system uses Microsoft Kinect for tracking the user's poses and instructs the user which movements must be performed by providing a series of visual and auditory feedback.

LEADERSHIP AND AWARDS

Publication at Congresso Brasileiro de Engenharia Biomédica 2018 (CBEB) Oct 2018
Hotel Atlântico Búzios, Búzios, BR

Participation and Presentation at Symposium on Virtual and Augmented Reality 2017 (SVR) Nov 2017
PUCPR, Curitiba, BR

Volunteer at Olimpíada Brasileira de Robótica 2017 (OBR) Aug 2017
Arena Pernambuco, São Lourenço da Mata, BR

Participation at International Free Software Forum 2017 (FISL) Jul 2016
PUCRS Center of Events, Porto Alegre, BR

Teacher Assistant of Algorithms and Data Structures Mar 2015 - Mar 2016
Federal University of Pernambuco (UFPE), Recife, BR

Awarded B in First Certificate in English (FCE) Jan 2013
University of Cambridge, UK

SKILLS

Languages	Portuguese (native), English (advanced)
Software	Python, OpenCV, PyTorch, Keras, C++, Git
Interests	Machine Learning, Computer Vision, Augmented Reality, Natural Interaction, Data Visualization