FELIPE CADAR CHAMONE

Graduating and Researcher

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I am a graduate student in computer science at the Federal University of Minas Gerais (UFMG). I have been doing scientific initiation at the Laboratory of Computer Vision and Robotics (VeRLab) since I joined the course in the first semester of 2016. I really enjoy doing scientific research and would love to see my work to have a positive impact on someone's life.

EXPERIENCE

Scientific research

VeRLab - Laboratory of Computer Vision and Robotics

April 2016 – Today UFMG, Belo Horizonte, Minas Gerais

- Comprehensive Knowledge in Computer Vision
- Good knowledge in image processing (OpenCV, camera calibration) and Mobile robotics (ROS)
- Experience with Convolutional Neural Networks (CNN)
- Good knowledge of Linux (Ubuntu)
- Experience with Git, ROS, Unity, Caffe and WordPress
- Good video editing skills (Example)

PROJECTS

Semantic Hyperlapse

VeRLab

April 2016 – September 2018 UFMG, Belo Horizonte, Minas Gerais

In this project, I was part of a team developing a semantic fast-forward method for first-person videos. Our goal was to accelerate extremely long and unstable first-person videos to emphasize important parts while maintaining smooth motion. We also proposed an 80-hour Dataset of Multimodal Semantic Egocentric Videos (DoMSEV)
More info in https://www.verlab.dcc.ufmg.br/semantic-hyperlapse/

Keywords: Semantic Hyperlapse | Sparse Coding | Convolutional Neural Networks | RGB-D Dataset

Advanced Teleoperation of Mining Equipment: Excavator

VeRLab/ITV-Intituto Tecnológico Vale/UFMG

November 2017 – Today UFMG, Belo Horizonte, Minas Gerais

The main objective of this project is to investigate the problem of the remote operation of mining equipment and propose a system aiming to increase safety and productivity. We also develop a mobile platform to simulate the teleoperation of an excavator using our proposed system using virtual reality and haptic feedback to provide a greater immersion for the operator.
More info in https://www.verlab.dcc.ufmg.br/advanced-teleoperation-of-mining-equipment-bulldozer/

Keywords: Teleoperation | Mobile Platform | Virtual Reality | Haptic Feedback

Binary Descriptor Invariant to Non-Rigid Deformations for RGB-D Images

VeRLab

June 2018 – March 2019 UFMG, Belo Horizonte, Minas Gerais

The project aims to develop a binary RGB-D descriptor invariant to isometric deformations, such as tissue deformations.

Keywords: RGB-D Images | Binary Descriptor

PUBLICATIONS

Journal Articles

- Junior, Sergio N. Silva et al. (2018). “A 3D modeling methodology based on a concavity-aware geometric test to create 3D textured coarse models from concept art and orthographic projections”. In: *Computers & Graphics* 76, pp. 73–83. DOI: 10.1016/j.cag.2018.09.002. URL: https://doi.org/10.1016/j.cag.2018.09.002.
- Silva, Michel M. et al. (2018). “Making a long story short: A Multi-Importance fast-forwarding egocentric videos with the emphasis on relevant objects”. In: *Journal of Visual Communication and Image Representation* 53, pp. 55–64. ISSN: 1047-3203. DOI: 10.1016/j.jvcir.2018.02.013.

Conference Proceedings

- Rezeck, Paulo, Felipe Cadar, et al. (2018). “An Immersion Enhancing Robotic Head-Like Device for Teleoperation”. In: *2018 Latin American Robotic Symposium, 2018 Brazilian Symposium on Robotics (SBR) and 2018 Workshop on Robotics in Education (WRE)*. IEEE. DOI: 10.1109/lars/sbr/wre.2018.00038. URL: https://doi.org/10.1109/lars/sbr/wre.2018.00038.
- Rezeck, Paulo, Bruna Frade, et al. (2018). “Framework for Haptic Teleoperation of a Remote Robotic Arm Device”. In: *2018 Latin American Robotic Symposium, 2018 Brazilian Symposium on Robotics (SBR) and 2018 Workshop on Robotics in Education (WRE)*. IEEE. DOI: 10.1109/lars/sbr/wre.2018.00039. URL: https://doi.org/10.1109/lars/sbr/wre.2018.00039.
- Silva, M. M. et al. (2018). “A Weighted Sparse Sampling and Smoothing Frame Transition Approach for Semantic Fast-Forward First-Person Videos”. In: *2018 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Salt Lake City, USA, pp. 2383–2392. ISBN: 978-1-5386-6420-9. DOI: 10.1109/CVPR.2018.00253.

I’M PROUD OF

I promoted a workshop at the Google event: Mind the Gap
“Programming for HoloLens”

5 Scientific publications
More details at the publications section

STRONG POINTS

Hard-working | Attention to details | Search for learning

Computer Vision | Robotics | Linux

PROGRAMMING SKILLS

Python
C
C++
C#
Matlab

ROS | Git | WordPress | Unity

FOREIGN LANGUAGE

English

EDUCATION

Graduation

UFMG

February 2016 – Today

High school

Colégio Santa Marcelina

January de 2013 – December de 2015