João Pedro **Moreira Ferreira**

Software Engineer · Computer Vision Engineer · Machine Learning Engineer · Data Scientist

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Work Experience

Eldorado Research Institute   *Campinas, Brazil*
Software Analyst   *Dez. 2020 - Present*
- Research and develop algorithms for image and video enhacement in smartphones. Some of them in real time.
- Explore Deep Larning and Classical Image Processing techniques.
- Creation and curation of dataset to be used to train deep learning models.
- Design and develop pipelines for CI (Continuous Integration).
- Define good practices in machine learning to be used throughout a company.

Unifeso   *Teresópolis, Brazil*
Professor   *Mar. 2022 - Present*
- Coordinate a research and extension laboratory.
- Tutorship of final undergrad final project.

UFMG - VeRLab/Petrobras   *Belo Horizonte, Brazil*
Researcher/Developer   *Dez. 2018 - Dez. 2020*
- Research and develop state-of-the-art techniques to solve problems related to the reconstruction of construction sites, the schedule of construction sites, and teleoperation on construction sites.
- Design and develop systems to automatize the pipeline of reconstruction of a construction site.
- Design and develop hardware to collect data using a UGV (Unmanned Ground Vehicles), that also can be used by a human user.

Teaching Experience

UFMG - Computational Linear Algebra   *Belo Horizonte, Brazil*
Assistant   *2019*
- Weekly meetings of 1-hour duration, to solve questions and help undergrad students with theoretical and practical exercises.
- Prepare and correct theoretical and practical exercises, help professors on the correction of exams.
- Teach a class about PageRank.
- Class with 180 students.

UFMG - Introduction to Visual Computing/Computer Vision   *Belo Horizonte, Brazil*
Assistant   *2019*
- Teach classes about Machine Learning on Visual Computing to undergrad students.
- Help on the preparation of classes.

UFSJ - Analytical Geometry   *São João del-Rei, Brazil*
Assistant   *2015*
- Weekly meetings of 2-hour duration, to solve questions and help undergrad students with theoretical and practical exercises.
- Class with 90 students.

Education

UFMG (Universidade Federal de Minas Gerais)   *Belo Horizonte, MG - Brazil*
M.Sc in Computer Science   *Aug. 2018 - Oct. 2020*
- Synthesizing Realistic Human Dance Motions Conditioned by Musical Data using Graph Convolutional Networks.

UFSJ (Universidade Federal de São João del-Rei)   *São João del-Rei, MG - Brazil*
B.Sc in Computer Science   *Mar. 2014 - Jul. 2018*
- Reconhecimento automatico de pistas para veículos autonomos utilizando têcnicas de visão computacional.

Honors & Awards

2021	**Best M.Sc. Dissertation Award in the WTD in Graphics, Patterns and Images**, SIBGRAPI	*Online*
2021	**Finalist of the Best M.Sc. Dissertation Award**, Brazilian Computing Society's Congress	*Online*
2017	**Honroable Mention**, Symposium on Virtual and Augmented Reality	*Curitiba, Brazil*
2013	**First Certificate in English**, Cambridge English Qualifications	*Cambridge, UK*

Publications

International Journal of Computer Vision   *Volume 129*

A Shape-Aware Retargeting Approach to Transfer Human Motion and Appearance in Monocular Videos

Apr. 2021

- Computer Vision; Computer Graphics; Motion Transfer.

Computers & Graphics   *Volume 94*

Learning to dance A graph convolutional adversarial network to generate realistic dance motions from audio

Feb. 2021

- Computer Vision; Computer Graphics; Motion Synthesis.

Winter Conference on Applications of Computer Vision   *Aspen, CO, United States*

Do As I Do Transferring Human Motion and Appearance between Monocular Videos with Spatial and Temporal Constraints

Mar. 2020

- Computer Vision; Computer Graphics; Motion Transfer.

Rio Oil & Gas Expo and Conference 2020   *Rio de Janeiro, Brazil*

Connecting real world and "digital twins" with Multivisão system   *Dec. 2020*

- Computer Vision; Robotic; SLAM.

International Conference on Computational Science and its Applications   *Melbourne, Australia*

An RGB-Based Gesture Framework for Virtual Reality Environments   *Jul. 2018*

- Digital Image Processing; Computer Vision; Virtual and Augmented Reality.

Symposium on Virtual and Augmented Reality   *Curitiba, Brazil*

Uma Abordagem para Detecção Gestos Voltada a Ambientes de Realidade Virtual e Aumentada   *Nov. 2017*

- Digital Image Processing; Computer Vision; Virtual and Augmented Reality.

International Symposium on Computer Music Multidisciplinary Research   *São Paulo, Brazil*

The Framework of Copista An OMR System for Historical Music Collection Recovery   *Jul. 2016*

- Digital Image Processing; Computer Vision; Virtual and Augmented Reality.

Languages

Portuguese, Native Speaker

English, Near native / Fluent

Skills

Main Skills, Computer Vision, Machine Learning, Algorithms and Data Structure.

Programming Languages, Python, Java, JavaScript, C, C++.

Management Software, Singularity, Docker, Git, Kubernetes.

Libraries/Frameworks, OpenCV, PyTorch, Tensorflow.