

# Gabriel Guimarães Carvalho

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## Education

### Universidade Federal de Pernambuco – UFPE

*PhD. Student in Computer Science*

### Università di Roma “La Sapienza”

*PhD. degree in Physics and Relativistic Astrophysics*

### Universidade Federal de Pernambuco – UFPE

*M.Sc. degree in Mathematics*

### Universidade Federal de Pernambuco – UFPE

*B.Sc. degree in Mathematics*

Aug. 2019 – Present

*Recife, BR*

Feb. 2014 – Feb 2017

*Rome, IT*

2011 – 2013

*Recife, BR*

2008 – 2010

*Recife, BR*

## Experience

### Computer Vision Data Scientist

*Moray*

- Computer Vision and Image Processing
- Data preprocessing and Data Analysis
- Geographic Information System
- Multispectral Satellite Image Processing

Jul. 2022 – Present

*São Paulo/Remote, BR*

### Computer Vision Data Scientist

*SpaceTime Labs*

- Computer Vision and Image Processing
- Data preprocessing and Data Analysis
- Geographic Information System
- Multispectral Satellite Image Processing

Jul. 2021 – Jul. 2022

*São Paulo/Remote, BR*

### Ph.D. Researcher

*Projeto CIn - Motorola*

- Computational Photography
- R&D of image processing and quality assessment tools
- Deep Learning research and development
- Data preprocessing and Data Analysis

Sep. 2019 – Jun. 2021

*Recife, BR*

### Postdoctoral Researcher

*Universidade Federal Rural de Pernambuco – UFRPE*

- Alternative gravitational theories and geometric methods in Physics

2017 – 2018

*Recife, BR*

### Lecturer

*Universidade Federal de Pernambuco – UFPE*

- Calculus I, II, III
- Analytic Geometry
- Linear Algebra
- Calculus in one complex variable

Nov 2017 – Jul 2019

*Recife, BR*

### Lecturer

*Universidade Federal de Pernambuco – UFPE*

- Calculus I, II
- Analytic Geometry

Apr 2012 – Jan 2014

*Recife, BR*

## Publications

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**A Deep Learning Approach to Mobile Camera Image Signal Processing. WORKSHOP ON INDUSTRY APPLICATION - CONFERENCE ON GRAPHICS, PATTERNS AND IMAGES (SIBGRAPI), 33. , 2020, Evento Online. Anais. Porto Alegre: Sociedade Brasileira de Computação, 2020 . p. 225-231.**

Jose Ivson S. Silva, Gabriel G. Carvalho, Marcel Santana Santos, Diego J. C. Santiago, Lucas Pontes de Albuquerque, Jorge F. Puig Battle, Gabriel M. da Costa, and Tsang Ing Ren

**On the hypotheses of Penrose's singularity theorem under disformal transformations. Eur.Phys.J.C 80 (2020) 3, 265**

Eduardo Bittencourt, Gabriel G. Carvalho, Iarley P. Lobo, and Leandro Santana

**The geometry of null-like disformal transformations. Int.J.Geom.Meth.Mod.Phys. 16 (2019) 11, 1950180**

Iarley Lobo and Gabriel G. Carvalho

**Scalar field self-force effects on a particle orbiting a Reissner-Nordström black hole. Phys.Rev.D 94 (2016) 12, 124028**

Donato Bini, Gabriel G. Carvalho, and Andrea Geralico

**Extended disformal approach in the scenario of Rainbow Gravity. Phys.Rev.D 93 (2016) 4, 044005**

Gabriel G. Carvalho, Iarley P. Lobo, and Eduardo Bittencourt

**On the disformal invariance of the Dirac equation. Class.Quant.Grav. 32 (2015) 185016**

Eduardo Bittencourt, Iarley P. Lobo, and Gabriel G. Carvalho

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## Technical Skills, Language Skills, and Interests

**OS:** Linux, macOS

**Programming Languages:** Python (proficient), C++ (familiar), Java (familiar), Matlab (familiar), Go (beginner)

**Libraries:** OpenCV, Pandas, Matplotlib, Numpy, Scipy, Tensorflow + Keras, Scikit-Image, Scikit-Learn, Pytorch, Geopandas, Rasterio

**Version Control:** Git, DVC (Data Version Control)

**Cloud:** AWS s3

**Writing:**  $\text{\LaTeX}$ , Office

**Languages:** Portuguese (native), English (fluent), Italian (conversational), Norwegian (beginner)

**Interests:** Machine Learning, Computer Vision and Image Processing, MLOps, Mathematics, Travel, Music, Photography, Nature, Philosophy, Brazilian Jiu-Jitsu

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## Extracurricular

**Specialization:** Deep Learning by DeepLearning.AI on Coursera. Certificate earned at July 12, 2020

**Specialization:** Mathematics for Machine Learning by Imperial College London on Coursera. Certificate earned at Dec. 12, 2020

**Course:** Machine Learning by Stanford University on Coursera. Certificate earned at Mar. 18, 2021