

# Gabriel Guimarães Carvalho

github.com/ggcarvalho  
linkedin.com/in/ggcarvalho

ggcarvalho.github.io  
gbrcarvalho@gmail.com

## Education

<b>Universidade Federal de Pernambuco – UFPE</b> <i>PhD. Student in Computer Science</i>	Aug. 2019 – Present <i>Recife, BR</i>
<b>Università di Roma “La Sapienza”</b> <i>PhD. degree in Physics and Relativistic Astrophysics</i>	Feb. 2014 – Feb 2017 <i>Rome, IT</i>
<b>Universidade Federal de Pernambuco – UFPE</b> <i>M.Sc. degree in Mathematics</i>	2011 – 2013 <i>Recife, BR</i>
<b>Universidade Federal de Pernambuco – UFPE</b> <i>B.Sc. degree in Mathematics</i>	2008 – 2010 <i>Recife, BR</i>

## Experience

<b>Ph.D. Researcher</b> <i>Projeto CIn - Motorola</i> <ul style="list-style-type: none"><li>• R&amp;D of image processing and quality assessment tools</li><li>• Deep Learning research and engineering</li><li>• Data analysis and preprocessing</li></ul>	Sep. 2019 – Present <i>Recife, BR</i>
<b>Postdoctoral Researcher</b> <i>Universidade Federal Rural de Pernambuco – UFRPE</i> <ul style="list-style-type: none"><li>• Alternative gravitational theories and geometric methods in Physics</li></ul>	2017 – 2018 <i>Recife, BR</i>
<b>Lecturer</b> <i>Universidade Federal de Pernambuco – UFPE</i> <ul style="list-style-type: none"><li>• Calculus I, II, III</li><li>• Analytic Geometry</li><li>• Linear Algebra</li><li>• Calculus in one complex variable</li></ul>	Nov 2017 – Jul 2019 <i>Recife, BR</i>
<b>Lecturer</b> <i>Universidade Federal de Pernambuco – UFPE</i> <ul style="list-style-type: none"><li>• Calculus I, II</li><li>• Analytic Geometry</li></ul>	Apr 2012 – Jan 2014 <i>Recife, BR</i>

## Publications

**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

## Technical Skills, Language Skills, and Interests

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**OS:** Linux, macOS

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

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

**Version Control:** Git

**Writing:**  $\LaTeX$ , Office

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

**Interests:** Computational Neuroscience, Computational Intelligence, Computer Vision and Image Processing, Mathematics, Travel, Photography, Nature, Philosophy

## Extracurricular

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**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