José F. Silva Neto

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Education and Qualifications

Federal University of Rio Grande do Norte, Natal, RN, Brazil
Thesis: Fuzzy Segmentation of Three-Dimensional Objects with Textural Properties
B.SC, M.Sc, Computer Science, 2009-2015

Professional Experience

Federal University of Rio Grande do Norte, Natal, RN, Brazil

Research Assistant - Imaging, Graphics, and Intelligent Agents research (April/2016 - September/2018): Research in the Computational Vision area focused on image segmentation methods via Deep Learning techniques. During this period I co-supervised an undergraduate student whose capstone work results were published in an international conference.

Publications

***José F. S. Neto**, Waldson P. N. Leandro, Matheus A. Gadelha, Tiago S. Santos, Bruno M. Carvalho, Edgar Garduño*. Automatic Fuzzy Segmentation of Textural Images using Adaptive Divergence Affinity Functions. Presented at 26th International Conference on Systems, Signals and Image Processing, IWSSIP 2019, Osijek, Croatia, June 05-07, 2019.

*Vitor Godeiro; **José F. S. Neto**; Bruno Motta De Carvalho; Julianny Barreto Ferraz; Bruno Santana Da Silva; Renata Antonaci Gama*. Chronic Wound Tissue Classification using Convolutional Networks and Color Space Reduction. Presented at 28th IEEE International Workshop on Machine Learning for Signal Processing, MLSP 2018, Aalborg, Denmark, September 17-20, 2018.

*Bruno M. Carvalho ; Edgar Garduño ; Tiago S. Santos ; Lucas M. Oliveira ; **José F. S. Neto** . Fuzzy segmentation of video shots using hybrid color spaces and motion information*. Pattern Analysis and Applications (Print), v. 17, p. 013-0359-1, 2013.

Research Experience

Chronic Wound Tissue Classification using Convolutional Networks and Color Space Reduction. (2018) We investigated algorithms to perform the segmentation of wounds as well as the use of several convolutional networks for classifying tissue as Necrotic, Granulation or Slough. We extended four architectures: U-Net, Segnet, FCN8 and FCN32, and proposed a color space reduction methodology that increased the reported accuracies, specificities, sensitivities and Dice coefficients for all 4 networks, achieving very good levels. UFRN. Advisor: Bruno Motta de Carvalho.

Automatic texture segmentation. (2017) Developed a method to automatically choose the seeds for our semi-automatic texture segmentation algorithm. UFRN. Advisor: Bruno Motta de Carvalho.

Fuzzy Segmentation of Three-Dimensional Objects with Textural Properties. (2012-2014) Extended the MOFS algorithm in order to achieve three-dimensional texture segmentation. Performed experiments with synthetic and real data obtained from the Multimodal Brain Tumor Segmentation dataset from the Medical Image Computing and Computer Assisted Intervention (MICCAI) Conference 2012. UFRN. Advisor: Bruno Motta de Carvalho.

Texture Fuzzy Segmentation using Adaptive Affinity Functions and Skew Divergence. (2011-2012) Capstone project of my bachelor in Computer Science. This work discusses how affinity functions can be used as texture descriptors, presenting a fuzzy segmentation algorithm that employs the Skew Divergence and the Gaussian Distribution as affinity functions, comparing the results obtained using these approaches. UFRN. Advisor: Bruno Motta de Carvalho.

National Laboratory for Scientific Computing, Petropolis-RJ. July 2009 Development of a Multithread Library System (C++ and Windows) for a Remote Rendering Project. Advisor: Selan Rodrigues dos Santos. Supervisor: Jauvane Cavalcante de Oliveira.

Teaching

Algorithms and Data Structures. (2009 - 2010) - Taught weekly discussion sessions for 2 classes (40 students in total) - Instructed students with C++ projects UFRN. Supervisor: Selan Rodrigues dos Santos.

Elements of Mathematics for Computer Science. Fall 2013 - Taught Combinatorial Analysis and Probability for 1 class (30 students in total) - Elaborated materials and classes about these topics. UFRN. Supervisors: Bruno Motta de Carvalho and João Marcos de Almeida.

Game Development with XNA - Summer School. UFRN, 2011 - Course of 2 weeks for a class with 40 students - 2D Side Scroller development - 3D Fundamentals(Camera Development, Local Illumination and HLSL)

Tutoring Education Program(PET)

In this program we executed teaching activities (such as minicourses, lectures, teaching assistance), research (undergraduate research as volunteers) and extension activities outside the University.

Computer Skills

Main Skills: Computer Graphics, Image Processing, Computer Vision.
Languages: C/C++, Python, C#, Java, Lua (Moai), JavaScript Matlab.
Libraries/APIs: : OpenGL, OpenCV, Numpy, Qt.

Last update: July 15, 2019