Andres M. Arias

PhD

Birth

Oct 23, 1983
Cali, Colombia

Address

Partynicka 50/14
53-031
Wroclaw
Poland

Tel

+48 573454806

Mail

xandresariasx@
hotmail.com

Websites

linkedin.com/in/
AndresArias

researchgate.net/
profile/Andres_Arias12

Skills

- Image processing
- Machine learning
- Mathematical modeling
- Algorithm design
- Cloud computing
- Numerical methods
- Optimization
- Quantitative Imaging

Profile

I am an accomplished electrical engineer with a master's degree in embedded systems and a PhD in machine learning applied in medical imaging.

Throughout my career, I have made significant contributions as a (co-)author of numerous peer-reviewed publications and as invited speaker in conferences around the world in topics related to machine learning applied in medicine.

My passion is solving problems where I can use both my strong mathematics and technical skills. My aspirations is continuing to develop challenging research projects in medical imaging, computer vision, and machine learning individually or cooperatively with a group of other professionals where I could also train and supervise the junior researchers.

My comprehensive knowledge and more than 10 yeas of experience as researcher make me a highly capable professional dedicated to solve imaging problems that require applying mathematical and machine learning models.

Experience

05/2022 - 10/2023 **Associate Researcher**   Zuse Institute Berlin, Berlin, Germany

- Deep learning in image segmentation.
- Image reconstruction in dynamic MRI imaging.

01/2018 - 04/2022 **Postdoc Researcher**   Moffitt Cancer Center, Florida, USA

- Imaging prognosis bio-markers of cancer treatments.

10/2011 - 10/2017 **Scientific Researcher**   Erasmus University, Rotterdam, The Netherlands

- Medical image analysis of arteries.

01/2008 - 07/2009 **Electronics engineer**   Independent, Cali, Colombia

- Software developer.

Technical Skills

- Matlab
- Python
- C, C++
- Linux
- Latex

Languages

English ★★★★★
Spanish ★★★★★
Polish ★★★☆☆

Education

10/2011 - 10/2017 PhD   Erasmus University, Rotterdam, The Netherlands

Biomedical Image Processing. Thesis title: *Image analysis of the carotid artery: a (semi-)automatic approach.*

08/2009 - 09/2011 M.Sc.   Eindhoven University of Technology, Eindhoven, The Netherlands

Embedded Systems. Thesis title: *Analysis of 3D MRI Blood-Flow Data using Helmholtz Decomposition.*

01/2001 - 10/2007 B.Eng.   Javeriana University, Cali, Colombia

Electronic Engineering. Thesis title: *Voice recognition system implemented in a Digital Signal Processor (DSP).*

Selected Publications

H. Ravi, **A. Arias Lorza**, J. R. Costello, H. Sook Han, D. K. Jeong, S. G. Klinz, J. C. Sachdev, R. L. Korn, N. Raghunand, *"Pretherapy ferumoxytol-enhanced MRI to predict response to liposomal irinotecan in metastatic breast cancer,"* Radiology: Imaging Cancer, 2023

Z. Sedghi Gamechi, **A. Arias Lorza**, Z. Saghir, D. Bos, M. de Bruijne, *"Optimal Surface Graph Cuts to Segment the Pulmonary Artery and Aorta on Non-contrast CT,"* Medical Physics, 2021

A. Arias Lorza, H. Ravi, R. C. Philip, J. P. Galons, T. P. Trouard, N. A. Parra, D. D. Von Hoff, W. Read, R. Tibes, R. Korn, N. Raghunand, *"Dose-response assessment by quantitative MRI in a phase 1 clinical study of the anti-cancer vascular disrupting agent crolibulin,"* Nature Scientific Reports, 2020

A. Arias Lorza, A. van Engelen, J. Petersen, A. van der Lugt, and M. de Bruijne, *"Maximization of Regional probabilities using Optimal Surface Graphs: Application to Carotid Artery Segmentation in MRI,"* Journal of Medical Physics, 2018

D.D.B. Carvalho, **A. Arias Lorza**, W.J. Niessen, M. de Bruijne, and S. Klein, *"Automated Registration of Freehand B-Mode Ultrasound and Magnetic Resonance Imaging of the Carotid Arteries Based on Geometric Features,"* Ultrasound in Medicine & Biology, 2016

A. Arias Lorza, J. Petersen, A. van Engelen, M. Selwaness, A. van der Lugt, W.J. Niessen and M. de Bruijne, *"Carotid Artery Wall Segmentation in Multispectral MRI by Coupled Optimal Surface Graph Cuts,"* IEEE Transactions on Medical Imaging, 2015

A. Arias Lorza, D.D.B. Carvalho, J. Petersen, A.C. van Dijk, A. van der Lugt, W.J. Niessen, S. Klein and M. de Bruijne, *"Carotid artery lumen segmentation in 3D free-hand ultrasound images using surface graph cuts,"* MICCAI, 2013

Conferences Attended

05/2021   **ISMRM**   Virtual Meeting
Poster presenter
ADC Decreases in Solid Tumors Following Monotherapy With PEGylated Recombinant Human Hyaluronidase: Results From Early-Phase Clinical Trials

08/2020   **ISMRM**   Virtual Meeting
Poster presenter
Quantitative MRI in a Phase 1 Clinical Study of the Vascular Disrupting Agent Crolibulin

05/2019   **ISMRM**   Montreal, Canada
Poster presenter
Quantitative Imaging of Pharmacodynamics in a Phase 1 Clinical Study of the Vascular Disrupting Agent Crolibulin (EPC2407)

10/2018   **Radiomics meeting**   Clearwaters, Florida
Attendant

09/2013   **The MICCAI society meeting**   Nagoya, Japan
Poster presenter
Carotid artery lumen segmentation in 3D free-hand ultrasound images using surface graph cuts

10/2012   **The MICCAI society meeting**   Nice, France
Oral presenter at the Medical Computer Vision workshop
Carotid artery wall segmentation by coupled surface graph cuts

02/2012   **European Congress of Radiology (ECR)**   Vienna, Austria
Member of the medical imaging workshop organization committee

Courses

02/2021   **Deep Learning with MATLAB**   Online Course

06/2014   **Medical Imaging Summer School**   Favignana, Italy

11/2012   **Scientific English Writing**   Rotterdam, The Netherlands

07/2012   **Computer Vision Summer School**   Ragusa, Italy

07/2012   **Biomedical Image Analysis Summer School**   Paris, France

05/2012   **Advanced Pattern Recognition**   Delft, The Netherlands

03/2012   **Knowledge Driven Image Segmentation**   Leiden, The Netherlands

10/2011   **Front end Vision & Multi-Scale Image Analysis**   Eindhoven, The Netherlands

Honors

Nature Scientific reports reviewer.

Scholarship granted to do my M.Sc.