Antonio **Rueda-Toicen**

Data Scientist

Finowstrasse 24, 10247. Berlin, Germany

(+58) 424-178-29-06 | antonio.rueda.toicen@gmail.com | www.digital-spaceti.me | andandandand | antonioruedatoicen

Experience

Neuraltrain GmbH

Berlin, Germany

Senior Data Scientist *June 2020 - current*

- Development and deployment of recommendation systems for images using content-based and collaborative filtering approaches.
- Tools used: Python, PyTorch, OpenCV, Pandas, SQL, Git, AWS, sklearn, Neo4J.

HomeToGo GmbH

Berlin, Germany

Data Scientist *March 2019 - May 2020*

- Development and deployment of algorithmic image understanding methods (computer vision) on an inventory of 500 million images of vacation rentals: image classification, similarity evaluation, image quality assessment and enhancement.
- Tools used: Python, PyTorch, Tensorflow, OpenCV, Pandas, SQL, Google BigQuery, Git, AWS, Google Cloud Platform

Data Science Retreat

Berlin, Germany

Data Science Mentor *April 2020 - current*

- Mentoring of experienced IT professionals and academics looking to transition into data science
- Courses taught: deep learning, SQL, computer vision.

Berlin Computer Vision Group

Berlin, Germany

Organizer *July 2019 - current*

- Hosting of biweekly free and practical workshops on advanced computer vision techniques at Berlin's Linux Users Group.
- Content taught: deep learning, convolutional neural networks, image classification, object detection, Resnets, OpenCV, Mask R-CNN, Python, PyTorch, Tensorflow, Keras
- https://www.meetup.com/Berlin-Computer-Vision-Group/

The Chain

Caracas, Venezuela

Chief Technology Officer | Lead Engineer | Founder *December 2017 - March 2019*

- Management of fifteen developers working on four software projects on blockchain and artificial intelligence: Coinet, Airmed, Surgflow, Plastico
- Translation of business needs into technical requirements
- http://thechain.tech/

Thinkful

New York City, USA

Technical Expert and Mentor for the Data Science Bootcamp (Remote) *May 2018 - current*

- Mentor of the data science bootcamp
- Individual mentoring on statistics, databases, experimental design, A/B testing, data visualization, and machine learning
- Tools used and taught: Python, SQL, OpenCV, Jupyter, pandas, NumPy, matplotlib, seaborn, PyTorch, deep learning

National Institute of Bioengineering, Central University of Venezuela

Caracas, Venezuela

Instructor and Researcher *April 2017 - November 2018*

- Instructor and researcher at the Center of Medical Visualization
- Research in biomedical computer vision focused in the segmentation and characterization of brain tumors in MRI
- Research on cellular automata, complex networks, information theory, and fractal geometry
- Supervision of biology and computer science thesis projects.
- Course taught: "Applications of fractal geometry to biomedicine"

Algorithmic Dynamics Lab, Center for Molecular Medicine, Karolinska Institute *Stockholm, Sweden*

RESEARCH PROGRAMMER (REMOTE) *January 2015 - September 2018*

- Development of software to provide numerical estimations of Kolmogorov complexity and empirical study of the properties of Turing machines, cellular automata, and complex networks
- Development of the Online Algorithmic Complexity Calculator and Minimal Information Loss for Data Dimensionality Reduction
  www.complexitycalculator.com
  www.complexitycalculator.com/MILS
- Development of the Layered-BDM grayscale image and weighted network descriptor
- Tools used: R, Shiny, Python, HTML5 + CSS3, Javascript, Wolfram Language
- www.algorithmicdynamics.net

Udacity *Mountain View, California*

MENTOR AND PROJECT REVIEWER: DATA ANALYSIS NANODEGREE (REMOTE) *Dec 2017 - May 2018*

- Mentoring and project review for the Data Analyst Nanodegree at Udacity
- One on one coaching directed to students learning statistics, Python, R, SQL and Tableau

Yttrium Technology LLC *Sunrise, Florida*

LEAD SOFTWARE ENGINEER (REMOTE) *October 2013 - May 2014*

- Development of DICOM PACS solution for the storage and transmission of clinical medical image data
- Tools used: C#, Java, XNAT Server, DICOM

Languages

Human-to-human English (fluent, C2 level, TOEFL IBT score 107:120), Spanish (native)

Human-to-computer Python, R, SQL, C, C++, Matlab, CUDA, Javascript, HTML & CSS

Education

Central University of Venezuela *Caracas, Venezuela*

MASTER'S DEGREE IN BIOENGINEERING *Jan. 2014 - April 2017*

- Biomedical computer vision programme.
- Thesis: Classification of brain tumors in multimodal MRI with network automata
- Advisor: Miguel Martín-Landrove

Central University of Venezuela *Caracas, Venezuela*

LICENTIATE DEGREE IN COMPUTER SCIENCE *Mar. 2007 - Oct. 2013*

- Specialization in Computer Graphics.
- Thesis: Segmentation of brain tumors in multichannel MRI with GPU-parallelized cellular automata
- Advisors: Miguel Martín-Landrove and Rhadamés Carmona

Selected Publications

Tumor Growth in the Brain: Complexity and Fractality *Springer Series in Computational Neuroscience*

BOOK CHAPTER IN “THE FRACTAL GEOMETRY OF THE BRAIN”: MIGUEL MARTÍN-LANDROVE, ANTONIO BRÚ, ANTONIO RUEDA-TOICEN, & FRANCISCO TORRES-HOYOS *2016*

available online

Evolution Rules of Deterministic Cellular Automata for Multichannel Segmentation of Brain Tumors in MRI *Proceedings of CIMENICS XII*

CONFERENCE ARTICLE: ANTONIO RUEDA-TOICEN, RHADAMÉS CARMONA, MIGUEL MARTÍN-LANDROVE, & WUILIAN TORRES *2014*

available online, with code repository on GitHub

Search of Complex Binary Cellular Automata with Behavioral Metrics *Complex Systems, Vol 24, No. 1*

JOURNAL ARTICLE: JUAN C. LÓPEZ-GONZÁLEZ & ANTONIO RUEDA-TOICEN *2015*

available online, app available at: cellular-automata.com/discoverer