Juan Carlos Basto Pineda

Data Scientist

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About me

I am a researcher and a data scientist very enthusiastic about math, data analytics, and technological innovations.
I have a top educational background in science and engineering, an insatiable intellectual curiosity, and considerable experience using statistics, computer programming, and data visualization to find useful insights into large collections of data.

Languages

English

Portuguese

Spanish

Follow my work

LinkedIn
www.linkedin.com/in/juan-basto-pineda

GitHub
https://github.com/juan-pineda

Education

2016	Ph.D. Science (Astronomy)	Universidade de São Paulo
2010	B.S. in Physics	Universidad Industrial de Santander
2008	B.E. in Electronic Engineering	Universidad Industrial de Santander

I am also enrolled in two Data Science specializations online in the Coursera platform, held by the John Hopkins University and the University of Michigan, respectively. I have completed the following courses so far:

The Data Scientist's Toolbox · Introduction to Data Science in Python · Getting and Cleaning Data · Regression Models · Statistical Inference · R Programming · Exploratory Data Analysis · Reproducible Research

Experience

2017	Leader of Colombian team	International Math Olympiad (IMO), Brazil
2017	Leader of Colombian team	Iberoamerican Math Olympiad, Argentina
2012, 2017	Research internship	Laboratoire d'Astrophysique de Marseille, France
2013-2014	Research internship	Heidelberg Institute for Theoretical Studies, Germany
2001-2017	Organizing committee	Olimpiadas Colombianas de Matemáticas
2008-2009	Full time professor	Universidad Cooperativa de Colombia

Awards

2010-2016	I was awarded with 5 prestigious scholarships during my PhD.
2010	Ranked 1st at IAG-USP selection of new graduate students. SP, Brazil.
2001	Colombian Mathematical Olympiad for University Students, top 10.
1999	Asian Pacific Mathematics Olympiad, bronze medal.
1999, 1994	Colombian Mathematical Olympiad, top 10.

Projects

• During my PhD. I run controlled experiments with computer simulations of galaxies. Each simulation comprised millions of virtual particles and followed several physical variables, thus generating a huge amount of data. Using a systematic approach envolving visualization and statistics I carved out the most relevant trends in the data, showing that several observational studies aiming to measure the dark matter component in galaxies may have been fooled in the past due to systematic effects.
`http://adsabs.harvard.edu/abs/2017MNRAS.466...63P`

• As a final work on my Electronic Engineering course I did some digital image processing on a set of galaxy images (automated noise cleaning and image segmentation).
`http://revistas.uis.edu.co/index.php/revistauisingenierias/article/view/2071`

• I am currently working on astronomy projects analysing observational data and creating mock images of simulated galaxies with a montecarlo code that models the physics of the interstellar medium.

Technical Skills

Advanced knowledge of Python, Bash and Linux. I have interacted with super computing environments and worked with TB volumes of data. Familiar with IDL, C++, Matlab, R, git, Github, Latex and Excel. 4+ years of experience with computer simulations and Montecarlo codes.