

# Carlos López Roa

Technologist, Data Scientist, Entrepreneur

## contact

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## languages

Spanish / Native

English / TOEFL

French / B1

German / A2

Italian / A1

## programming

C, R, Java, Python

Bash, SQL, XML

CSS, HTML & JS, PHP

Matlab, ♥ Mathematica

Prolog, Arduino &

Processing

Assembler, Logo

LaTeX, BibTeX

## mathematics

Complex & real analysis

Linear algebra

Graph Theory

Multivariable calculus

Ordinary & Partial

Differential Equations

Statistics & Probability

Functional analysis

Finite element analysis

Wavelet Analysis

Dynamical Systems

## data science

Convex optimization

Factorial Analysis

Classification

Clustering

Text Mining & NLP

Association Rules

Regression

Decision Trees

Neural Networks

Support Vector

Machines

Probabilistic Graphical

Models

## interests

Data mining, Machine Learning, Big Data analytics, Mathematical modeling, Cloud computing, Internet of things, Sensorgrid, Computer simulation, Artificial Intelligence, Web Mining, Embedded systems

## education

09/16-Today **M.Sc.** Data Mining and Knowledge Management Università Piemonte Orientale, AL, IT  
**Speciality:** Relational Data Mining

09/15-08/16 **M.Sc.** Data Mining and Knowledge Management Université Lumière Lyon 2, Lyon, FR  
**Speciality:** Data Mining and Complex System Modelling

10/09-04/14 **B.Sc.** Technology Center of applied Physics and advanced Technology, UNAM, Qro, MX  
*Bubble dynamics subject to novel shockwave: High speed video*  
summa cum laude, top 3 best GPA 2011, 2012, P.L. 08807255

## experience

02/15-08/15 **Dattlas - Kio Networks** Data Scientist  
**Keywords:** Big Data, SAP HANA, Business Intelligence  
**Projects:** Televisa

06/14-Today **Prosciana** Founder, CTO  
**Keywords:** Big Data, Cloud Computing, Internet of Things, Web Services  
**Projects:** K13 | Alarmex | TopCar | Ultralam | Moringa | Lehvi | deconb | Britcan

01/14-06/14 **Vintalent Solutions** Data Scientist  
**Keywords:** Web Services, Data Mining

08/12-07/13 **G&C Consultoría** Data Scientist  
**Keywords:** Web Services, Statistical Analysis  
**Projects:** UAQ Chemistry | UAQ Nutrition | UAQ Engineering | UAQ Psychology

## technical skills

Big Data Analytics using Apache Hadoop, Apache Spark and SAP HANA.

In memory database management using Key-Value data stores in Redis.

Graph databases modeling and analysis using Neo4j

Deep Learning neural networks using Tensorflow

Expertise managing cloud instances and services in Amazon Web Services

Extensive ability in mathematical modelling, numerical simulations and computer assisted symbolic calculus.

Analogical electronics abilities. Microcontroller programming and implementation.

Embedded Systems: Software and hardware development with Microchip PIC family, Arduino platform, Raspberry Pi and Texas Instrument Launchpad

Most common productivity tools on Windows, OS X, Linux desktop and Linux servers

## extra courses

- Introduction to Databases - Stanford University - Coursera
- Data Science Specialization - Johns Hopkins University - Coursera
- R Programming - Johns Hopkins University - Coursera
- Machine Learning - Stanford University - Coursera
- Machine Learning Foundations - University of Washington - Coursera
- Web Application Architectures - The University of New Mexico - Coursera
- Startup Engineering - Stanford University - Coursera
- Web Intelligence and Big Data - Indian Institute of Technology Delhi - Coursera
- II Multidisciplinary mathematical Workshop on applications to other sciences, Mathematics Institute, UNAM, Juriquilla, Querétaro, 24 hours, 2014
- IX Mathematics Summer School, Mathematics Institute, UNAM, Cuernavaca, Morelos. 40 hours, June 2012
- XXVII Víctor Neumann-Lara Colloquium in Graph and Combinatorial Theory and its Applications, Tlaxcala, Tlax., 32 hours, March 2012
- Mathematics Summer School in Querétaro, Center for Innovation in Mathematics, Querétaro, Qro, 54 hours, June 2011

## social service

Research internship in the Shockwave Laboratory in CFATA-UNAM, 520 hrs.

2014 Gustavo Baz Prada award for the most impacting social service

## publications

- López-Roa, C., Perez, L.E., Pedroza, J.C., Icaza, M. de, Castano, V.M.: *Mitos y realidades sobre la situación de los recursos hídricos*, (2010). A.M Newspaper., Section *Ciencia hoy*, April 24, 2010.
- Perez-Margay, L.E., López-Roa, C., Pedroza, J.C., Icaza, M. de, Castano, V.M.: *Optimización y aprovechamiento de los recursos hídricos*. Memorias del V Coloquio en Tecnología. p. 207. Universidad Nacional Autónoma de México, (2010). ISBN: 978-607-02-1439-4
- López-Roa, C., Aragón, J.L.: *Programación de Álgebras de Clifford en Mathematica*. Memorias del sexto coloquio de Tecnología. Universidad Nacional Autónoma de México (2012). ISBN: 978-607-02-3655-6
- López-Roa, C., Vargas, A.: *Control robusto de biorreactores basado en modos deslizantes*. Memorias del octavo coloquio de Tecnología. Universidad Nacional Autónoma de México (2012). ISBN: 978-607-02-3654-9
- López-Roa, C., Santamaría-Holek, I.: *Análisis dinámico del oscilador salino*. Memorias del noveno coloquio de Tecnología. p. 105. Universidad Nacional Autónoma de México. (2012). ISBN: 978-607-02-3943-4