

# Carlos López Roa

Technologist, Data Scientist, Entrepreneur

## contact

+39 351 00 88 082  
me@mr3m.me  
Github  
Stack Overflow  
LinkedIn

## 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  
L<sup>A</sup>T<sub>E</sub>X, BibT<sub>E</sub>X

## 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  
Expertise running cloud instances and services in Amazon Web Services: EC2, RDS, S3, DynamoDB, EMR, SES  
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