

# Carlos López Roa

Technologist

## contact

**Mobile** 442-359-7980  
carlos.lopez.roa@gmail.com  
Github : mr3m

## languages

Spanish / Native  
English / TOEFL  
German / A1

## programming

C, R  
Java, Python  
Shell-Bash  
SQL, XML  
CSS3 & HTML5  
JavaScript  
Matlab  
Mathematica  
L<sup>A</sup>T<sub>E</sub>X, BibT<sub>E</sub>X

## mathematical expertise

Complex & real analysis  
Linear algebra  
Analytical geometry  
Multivariable calculus  
Superior algebra  
Ordinary & Partial  
Differential Equations  
Statistics & Probability  
Functional analysis  
Finite element analysis  
Wavelet Analysis  
Dynamical Systems  
Neural networks design

## interests

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

## education

09/15-08/17 **M.Sc.** Data Mining and Knowledge Management Université Lumière Lyon 2, Lyon, Fra

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

## experience

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

06/14-01/15 **Prosciana** Director of Technologic development  
**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 miner  
**Keywords:** Web Services, Data Mining

01/13-07/13 **National Autonomous University of Mexico, Campus Juriquilla** Teacher assistant  
**Keywords:** Classical Mechanics, Electronics

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

## technical skills

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

Analogical electronics abilities. Microcontroller programming and implementation.

Big Data Analytics using Apache Hadoop and SAP HANA

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

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

## extra courses

- 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

## references

**Miguel de Icaza Herrera, PhD.** e-mail: [icaza@fata.unam.mx](mailto:icaza@fata.unam.mx);  
Tel: 442-2381160

- Researcher in Centro de Física Aplicada y Tecnología Avanzada, UNAM.
- Molecular Engineering in Materials department.