

Carlos López Roa

Technologist | Data Scientist | Entrepreneur

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languages

Spanish / Native

English / TOEFL

French / B1

German / A2

Italian / A1

programming

C, 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-Izzi

SQL Scripting for OLAP analysis and custom made KPI calculation. Client conciliation of KPI results. Implementation and support of a Data Warehouse in SAP HANA with ETLs coming from different sources in different schemas. Reporting of custom made KPIs in mobile devices. Massive Parallel Processing with In-Memory RDMS.

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
Full stack development of web services for several stake-holders. Client conciliation of final result. Support of application and life cycle management.

01/14-06/14 **Vintalent Solutions** Data Scientist
Keywords: Web Services, Data Mining
Structuring data from unstructured data sources. Data collection and de-duplication using web service implementation. Lifecycle management of obtained entities

08/12-07/13 **G&C Consultoria** Data Scientist
Keywords: Web Services, Statistical Analysis
Projects: UAQ Chemistry | UAQ Nutrition | UAQ Engineering | UAQ Psychology
Data collection using web service implementation. Pre-processing and statistical analysis of the data. Summarised presentation in custom made KPIs and dashboards.

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

- Data Science Specialization - Johns Hopkins University - Coursera
- R Programming - Johns Hopkins University - Coursera
- Machine Learning - Stanford University - 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