

# Curriculum vitae

Naranjo 280  
Mexico city  
Carlos Ramírez Álvarez  
Phone: (52) 5560955354  
cramireza@ciencias.unam.mx

## EDUCATION

2005-2010. Bachelor in Sciences at the Facultad de Ciencias, UNAM. México.

2012-2017. Currently Biomedical Sciences PhD student in *Informatics and Applied Mathematics* at Instituto de Investigaciones Biomédicas, UNAM. México.

2017. *Data Science* certification by Johns Hopkins University. See the certification at <https://www.coursera.org/account/accomplishments/certificate/PJRPRWC3KDHM>.

## COMPETENCIES

*Mathematical modeling, informatics, and programming.*

*DataScience with postgresql, R, python and periscopedata.*

Experience in data mining.

Geographic data analysis using periscopedata and R.

G SUITE for email and spreadsheet reports automation using *google scripts* and *google Cloud Platform*.

Programming languages: *R*, python, C++, Java, JavaScript, perl, php, *postgresql*, latex and html. *Linux* and Windows OS.

*Github* and eclipse platforms for software development.

*Project management* tools like Asana and Slack.

Experience in fastq *genomic sequences assembly* using *nextflow* framework.

*Genetic association analysis* using *plink*, GenomeStudio, and *R*.

## WORK EXPERIENCE

*Software developer* writing SQUAD R Package for modeling regulatory networks written in R language. See the project at <https://github.com/caramirezal/SQUAD>.

*Data analyst* in the Genetic of Psychiatric and Neurodegenerative Diseases Laboratory lead by Dr. José Humberto Nicolini Sánchez Lab at Instituto de Medicina Genómica (INMEGEN). See documentation at <https://github.com/caramirezal/autismProject>.

*Data processing* in the development of a bioreactor in collaboration with Biologic Engineering Lab headed by Dr. Agustino Martínez Antonio at CINVESTAV Irapuato. See <https://github.com/caramirezal/bioreactor>.

*Business Intelligence* at IguanaFix 2017-2018. Data base management, analysis, data visualization and process automation.

*Data Analyst* in the Integrative Immunology Laboratory at Instituto Nacional de Enfermedades Respiratorias Ismael Cosío Villegas (INER) headed by Dr. Enrique Espinosa. See the project at <https://github.com/caramirezal/vihCohort>.

## PUBLICATIONS

Méndez A, Ramírez C, Martínez M, and Mendoza L. The SQUAD method for the qualitative modeling of regulatory networks. *Computational Cell Biology*. 24 November 2017.

Ramírez C, and Mendoza L. Phenotypic stability and plasticity in GMP derived cells as determined by their underlying regulatory network. *Bioinformatics*. January 2017 (in press).

## SELECTED MEETINGS AND TALKS

Participation in the Intelligent Systems for Molecular Biology (ISMB) and European Congress of Computational Biology (ECCB) 2015 meeting which was held from July 10 to July 14 2015 in Dublin, Ireland.

Participation at the XXIV National School of Optimization and Numerical Analysis. Organized by the Center on Mathematical Investigations AC, presenting a talk called "Development of a dynamical model of the regulatory network that controls the differentiation of granulocytes". The meeting was held from april 27 to may 2, 2013, in Guanajuato, Mexico.

## LANGUAGES

English: Experience in writing, reading, and speaking technical reports. Certification, 1312 CELE UNAM.

Experience in german (Intermediate). <https://www.duolingo.com/cramireza>.

## **SCHOLARSHIPS**

Bachelor Thesis research support, PAPIIT IN221606, UNAM.

PhD scholarship, 290671 CONACYT.