Carlos Ramírez

PhD in Biomedical Sciences

Computational Biologist

Contact
Zollhofgarten 8
69115, Heidelberg
Germany
+491523 7924148

Languages
Spanish (native)
English (Proficient)

Programming
R, Python, PostgreSQL, Java, html

Other
C++, Perl, Matlab, Bash, JavaScript, Latex

Tools
Bioconductor, Rmd, plink, hisat2, star, Salmon, samtools, Git, Asana, Slack, Google Suite, Office Suite, PeriscopeData

About

Computational Biologist with working experience in the implementation of **mathematical modeling, machine learning (ML), data mining, Next Generation Sequencing (NGS)**. My *main interest* is developing mathematical models for cutting edge current omic technologies data obtained from high throughput experiments to give insights about biological processes.

Education

BcSc. in Biology (2010). Faculty of Sciences, National University of Mexico.

PhD. in Biomedical Sciences (2019). Computational Biology Lab, Institute of Biomedical Research, National University of Mexico.

Postdoctoral Researcher (2019 -). Health Data Science Unit (HDSU), Bioquant, Medical Faculty Heidelberg.

Current work projects

Bioinformatician (2019 -). Part of the Transregio 179 (TRR179) initiative, fund by the Deustche Forschungsgemeinschaft (DFG), whose aim to understand the underlying mechanisms of virus-driven hepatitis.

Previous work

Sr. Data Scientist Advisor (2018 - 2019). Mi ADN México. Developing a biopanel of genetic markers associated to sport & nutrigenetic profiles implementing data mining, machine learning, and mathematical modeling.

Computational Biologist (2019). National Institute of Respiratory Diseases. Implementing ML techniques to find predictors of recovery status in HIV patients.

BI & Data Analyst (2017 - 2018). Iguanafix. Business Intelligence, database management, and data analysis.

Patents

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Automated Generalized Search AGS ALGORITHM 1.0. A data mining tool to extract, weight, annotate, and summarize information regarding allelic variants available in public repositories. Link to document.

PPM Predictive Polygenic Model 1.0. A Generalized Linear Model for the interpretation of genetic data applied to nutritional, sport, and skin health status. Link to document.

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Recent publications

Ramírez C, Kee C..., and Hermann C. **The endogenous cellular protease inhibitor SPINT2 controls SARS-CoV-2 viral infection and is associated to disease severity**. *EMBOpress*. April 1, 2021.

Triana S, Metz-Zumaran C, Ramirez C..., and Boulant S. **Single-cell analyses reveal SARS-CoV-2 interference with intrinsic immune response in the human gut**. *PLOS Pathogens*. June 28, 2021.

Romero D, Ramírez C, Imaz-Rosshandler I… and Espinosa E. **Machine learning-selected variables associated with CD4 T cell recovery under antiretroviral therapy in very advanced HIV infection**. *Translational Medicine communications*. April 23, 2020.

Selected meetings and talks

Participation at the First Symposium of Epigenomics: The Establishment of Single Cell RNA-Seq in Mexico which was held on the Children's Hospital of Mexico on September 4, 2018. Presenting the poster "An update of SQUAD: A tool for modeling regulatory networks".

Participation at the Basel Computational Biology Conference (B2C) from the Swiss Institute of Bioinformatics run from September 13 to 15 2015 in Basel Switzerland.

Participation at the 4th Annual IRTG PhD, MD and Post-Doc Retreat which was held on July 20 to 21, 2021 at the Forum Hohenwart, Germany.