JESÚS VÉLEZ SANTIAGO

Genomic Scientist | Data Scientist

I love analyzing and visualizing data to improve our understanding of what is around us. Besides, I am fascinated by software development, and I hope to contribute valuable packages to the scientific community one day. I am known for being a passionate, curious person and be always open to new challenges. Do you have any challenges? Good! Let's do it. Let's be problem solvers.

🎓 EDUCATION AND TRAINING

2021

Datacamp Inc.
Data Scientist Professional   📍 Certificate

The following knowledge was assessed:

- Data Management
- Model Development
- Exploratory Analysis
- Coding for Production Environments
- Statistical Experimentation
- Communication and Reporting

2017 | 2021

National Autonomous University of Mexico (UNAM)
B.S. in Genomic Sciences   📍 Cuernavaca, Morelos, Mexico

Thesis: Bacterial filamentation: a bet for survival in stressful environments

💻 RESEARCH EXPERIENCE

2018 | 2021

Undergrad Thesis Student
Center for Genomic Sciences   📍 Cuernavaca, Morelos, Mexico

- I combined mathematical models with experimental microbiology to understand how exposure to antimicrobial substances triggers bacterial cells' stress responses. I have mainly focused on postulating a mathematical model showing that cell elongation can promote transient resistance to individual bacterial cells by diluting the antibiotic's intracellular concentration.

2020 | 2021

Developer of R Software
Universität Heidelberg   📍 Remote work, Germany

- Over the years, many different regulatory networks and statistical algorithms have been developed, mostly in a fixed combination of one network and one algorithm. To systematically evaluate both networks and algorithms, we developed decoupleR, an R package that allows users to apply efficiently any combination provided.

2019 | 2020

Assitant of National Researcher Level III or Emeritus
Center for Genomic Sciences   📍 Cuernavaca, Morelos, Mexico

- Perform analysis of collections of massive expression experiments (*e.g.*, RNA-seq) from *E. coli* using uniform bioinformatic pipelines that allowed comparison with the transcriptional regulation network's classical experimental knowledge.

CONTACT INFO

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SKILLS

Experienced in machine learning, statistical and mathematical modeling, data analysis, and data visualization.

Highly skilled in R, Python, Git, and Conda.

2019 — **Bioinformatician and Genomist**
Centré de Regulació Genòmica 📍 Barcelona, Spain

- Differential expression analysis between the different conditions (*e.g.*, deletions, overexpression, wild type) of transcriptional factors.
- Comparison of the expression profiles of genes regulated by transcriptional factors with the information available in *E. coli* gene regulation databases (*e.g.*, RegulonDB).

2018 — **Visiting Scientist**
Center for Genomic Sciences 📍 Cuernavaca, Morelos, Mexico

- Design of R programs for the study of the topological properties of the E. coli transcriptional regulatory network.

💼 PROFESSIONAL EXPERIENCE

2021 — **Data Science Professor**
Platzi Inc. 📍 Remote work

- Complete design and planning of two data science courses.
- Creation of exams and support materials.
- Courses promotional writing.
- Courses promotional live class.

🖥️ TEACHING EXPERIENCE

2021 — **Advanced Customization of Environment for Data Science**
Platzi Inc. 📍 Link to my course

Learn how to customize a data science workbench based on Python, Conda, and Jupyter Notebooks. With these tools, you will achieve harmony in your work environment and increase your productivity as a data scientist.

2021 — **Jupyter Notebooks for Data Science**
Platzi Inc. 📍 Link to my course

Learn about the different types of Jupyter notebook, the fundamental work tool for any data scientist.

2021 — **Teaching Assistant of "Analysis of transcriptomic data of single cell (scRNA-seq) with R and Bioconductor." Couse**
Bioinformatics Meeting in Mexico 2021 📍 Couse material

- Provide support to students.
- Solve configurations of work environments.
- Guide discussions and exercises in breakout rooms.

2020 — **Teaching Assitant of Linear Algebra Course**
Center for Genomic Sciences 📍 Cuernavaca, Morelos, Mexico

- Monitoring of student performance accompanied by personalized and group tutorials.
- Review of assignments and exams.

HONORS AND AWARDS

2020

Winner of first "Olimpiadas Platzi: Data Triathlon" – Platzi
Platzi Inc. 📍 Award link

2020 | 2021

Support Program for Research and Technological Innovation Projects (PAPIIT)
National Autonomous University of Mexico (UNAM) 📍 Mexico

2019

Program for Special Inter-institutional Cooperation Activities (PAECI)
National Autonomous University of Mexico (UNAM) 📍 Mexico

SELECTED PUBLICATIONS AND POSTERS

2019

Filamentation: a bet for survival.
Poster for 2019 Fall School of Mathematical Biology (EOBM). 📍 Merida, Yucatan, Mexico

Velez-Santiago J, Peña-miller R.