

Daniel Ruiz-Perez

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Website: <https://daniruijperez.github.io> **GitHub:** [DaniRuizPerez](https://github.com/DaniRuizPerez) **LinkedIn:** [daniel-ruiz-perez](https://www.linkedin.com/in/daniel-ruiz-perez)

HIGHER EDUCATION

- Dec 2020 **PhD In Computer Science. Florida International University** Miami, USA. GPA: 4.0/4.0
Working at the Bioinformatics Research Group (BioRG) modeling longitudinal multi-omic interactions from temporally misaligned data under a Bayesian framework, and causal structure discovery within the microbiome. Data mining applications on the microbiome of Bacterial Vaginosis, and study of dimensionality reduction algorithms like PLS-DA or PCA. (ETS GRE Quantitative: 168/170).
- Dec 2019 **MSc in Computer Science. Florida International University**, Miami, USA. GPA: 4.0/4.0
- Jun 2016 **MSc in Software Engineering. University of A Coruña**, Spain. MS's thesis scheduled for 2020.
- Jun 2015 **BSc in Computer Science. University of A Coruña**, Spain

WORK EXPERIENCE

- 2020 - 2020 **Machine Learning Software Engineer Summer Intern (PhD). Facebook**, CA, USA.
Facebook App Monetization Ranking team. Machine learning to rank ads presented to users.
- 2019 - 2020 **Dissertation Year Fellow. Florida International University**, Miami, USA.
Interaction inference and causal discovery on multi-omics time-series microbiome data.
- 2019 - 2019 **Data Science Summer Intern. Assurant** (Advanced Data Analytics Team), Miami, USA.
Spearheaded the architecture design and implementation of the end-to-end migration of all on-premise systems to Azure Cloud Ecosystem (Event Hubs, Databricks, Delta Tables, ...).
- 2016 - 2019 **Graduate Assistant. Florida International University**, Miami, USA.
Teaching Assistant (2016-2017, 2018-2019) and Research Assistant (2017-2018).
Taught Graduate Theory of Computation, Operating Systems Principles, Intro to Data Mining, Intro to Microcomputers, and Academic Success Initiative Ambassador for four undergraduate courses.
- 2015 - 2016 **Software Engineer. Aldaba Information Technology and Services**, A Coruña, Spain.
Analysis, design, implementation, and maintenance of an expert system in Java IBM ODM, a radioactive alarm system in C#, and a web application with .NET in a SCRUM team.
- 2014 - 2015 **Undergraduate Research Assistant. University of A Coruña**, Spain
Use of machine learning to analyze genomic data and development of a bioinformatic platform accessible at chromevo1.fiu.edu. In collaboration with the CHROMEVO1 group at FIU.
- 2012 - 2014 **Judo Instructor. Cambre Ocio SL**, A Coruña, Spain.

AWARDS RECEIVED

- **Dissertation Year Fellowship**, Florida International University, USA, 2019.
- **Best Graduate Student in Teaching Award**, Florida International University, USA, 2019.
- **Charles Perry Graduate Scholarship**, Florida International University, USA, 2019.
- **Research Grant**, Golden Key International Honor Society, 2019.
- **Conference Travel Fellowships from:**
 - Conference on Neural Information Processing Systems (NeurIPS), 2019.
 - NeurIPS LatinX in Artificial Intelligence (LXAI) Research Workshop, 2019.
 - ACM-IMS Interdisciplinary Summit on the Foundations of Data Science, 2019.
 - Michigan Institute for Data Science Consortium and Annual Symposium, 2019.
 - International Conference on Computational Advances in Bio and medical Sciences (ICCABS), 2018
 - FIU Graduate and Professional Student Committee: 2017, 2018, 2019.
 - FIU School of Computing and Information Sciences: 2017, 2018, 2019.
- **Golden Key full scholarship and best project award**, International Scholar Laureate Program, 2018.
- **Biomedical Research Initiative Award**, Florida International University, USA, 2017.
- **Graduate Assistantship**, Florida International University, USA, 2016-Present.
- **Undergraduate research scholarship**, Ministry of Science and Education, Spain, 2015.
- **Research learning fellowship**, University of A Coruña, Spain, 2015.
- **Graduated from high school with the highest honors**. GPA: 3.98, 2011.
- **Exceptional athlete recognition**, Cambre City Council, 2007-2010.

PERSONAL SKILLS

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| Languages | English: Proficient. Spanish, Galician: Native. Portuguese, French: Elementary. |
| Job Skills | Experience: Bioinformatics, Machine Learning, Causality, Data Mining, Analysis, Data Science, Time Series Analysis, Algorithms, Software Engineering, Back-end Development, Android, Azure. Programming Languages: Python, R, MATLAB, Java, C, C#, JavaScript. Databases: MySQL, PostgreSQL, MongoDB. Frameworks: Django, .NET, MEAN Stack. Prior experience: Information Retrieval, Game Theory, Robotics, Computer Graphics, Videogame Development, Expert Systems, Computer Vision, AWS, SCRUM, Cloud. |
| Member of | IEEE, ACM, YΠE, ΛXA, SMBE, Golden Key, and Microbiology Society. |
| Other | Co-founder of voltio.net , a software development company focused on mobile applications. 2nd Dan Judo black belt and several times regional Judo champion. Solely developed 3 Android apps in the health area. Peer Reviewer for one PLOS Computational Biology article. |

RESEARCH WORK

Journal publications:

1. **Ruiz-Perez**, Lugo-Martinez, Bourguignon, Mathee, Bar-Joseph, Narasimhan (2020). Dynamic Bayesian networks for integrating multi-omics time-series microbiome data. *BioRxiv preprint DOI:* 10.1101/835124.
2. **Ruiz-Perez**, Guan, Madhivanan, Mathee, Narasimhan (2019). So you think you can PLS-DA?. *In press at BMC Bioinformatics. BioRxiv preprint DOI:*10.1101/207225
3. Lugo-Martinez[†], **Ruiz-Perez**[†], Narasimhan, Bar-Joseph (2019). Dynamic interaction network inference from longitudinal microbiome data. *BMC Microbiome*, 7:54. [†]**Equal contribution.**
4. Sazal, **Ruiz-Perez**, Cickovski, Narasimhan (2019). Inferring Relationships in Microbiomes from Signed Bayesian Networks. *In press at BMC Bioinformatics. BioRxiv preprint DOI:* 10.1101/2020.02.18.955344.
5. Coudray, **Ruiz-Perez**, Colbert, Krupp, Kumari, Narasimhan, Mathee, Madhivanan (2019) Effect of metronidazole on microbiomes associated with asymptomatic bacterial vaginosis (abstract). *Access Microbiology*, 1(1A).
6. Madhivanan, ..., **Ruiz-Perez**, et al (2020). Composition of the Vaginal Microbiome Associated with High Risk HPV Infection and Increased Risk for Cervical Cancer (abstract). *Cancer Epidemiology and Prev Biomarkers*, 29(3), 696-696.

Conference proceedings:

1. **Ruiz-Perez**, Lugo-Martinez, Bar-Joseph, Narasimhan (2020). Application of Bayesian Techniques to Multi-omic Longitudinal Data. *International Conference on Machine Learning (ICML) (LXAI)* at Vienna, Austria.
2. Lugo-Martinez, **Ruiz-Perez**, Narasimhan, Bar-Joseph (2019). Dynamic interaction network inference from longitudinal microbiome data. *Society for Molecular Biology and Evolution (SMBE)* at Manchester, UK.
3. **Ruiz-Perez**, Lugo-Martinez, et al (2019). Temporal interactions of genes, taxa, and metabolites of the microbiota in patients with inflammatory bowel disease. *Asian Conference on Transcription* at Dunedin, Otago, New Zealand.
4. Sazal, **Ruiz-Perez**, Cickovski, et al (2018). Inferring Relationships in Microbiomes from Signed Bayesian Networks. *International Conference on Computational Advances in Bio and medical Sciences (ICCABS)*, Las Vegas, NV, USA.
5. **Ruiz-Perez**, Guan, Madhivanan, Mathee, et al (2018). So you think you can PLS-DA?. *ICCABS* at Las Vegas, NV, USA.
6. **Ruiz-Perez**, Colbert, Coudray, Mathee, et al. (2018). Vaginal microbial profile of women with asymptomatic bacterial vaginosis in US. *Microbiology Society Annual Conference* at Birmingham, UK.

Posters:

1. **Ruiz-Perez**, Sazal, Park, Cickovski, Lee, Cho, Hwang, Narasimhan (2019). Role of gut microbiota and their temporal interactions in kidney transplant recipients. *NeurIPS (LXAI)*, Vancouver, Canada.
2. Sazal, **Ruiz-Perez**, Valdes, Cickovski, Stebliankin, Mehta, Mathee, Narasimhan (2019). Signed Causal Bayesian Networks for Microbiomes. *NeurIPS (LXAI)*, Vancouver, Canada.
3. Lugo-Martinez, **Ruiz-Perez**, Narasimhan, Bar-Joseph (2019). Dynamic interaction network inference from longitudinal microbiome data. *RECOMB* at Washington, DC, USA.
4. Coudray, **Ruiz-Perez**, Colbert, Krupp, Kumari, Mathee, Narasimhan (2019). P371 Effect of metronidazole treatment on recurrent and persistent bacterial vaginosis: a pilot study. *The BMJ Sexually Transmitted Infections*;95:A187
5. Madhivanan, Coudray, **Ruiz-Perez**, et al. (2019). P372 Bacterial vaginosis and high-risk human papillomavirus coinfection among African American women in the United States. *The BMJ Sexually Transmitted Infections*;95:A188.
6. Madhivanan, Coudray, **Ruiz-Perez**, Colbert, Krupp, Kumar, Narasimhan, Mathee (2019). P373 Co-occurrence of bacterial vaginosis and *Trichomonas vaginalis* among young African American women. *The BMJ STI*;95:A188.
7. Lugo-Martinez, **Ruiz-Perez**, Narasimhan, Bar-Joseph (2019). Dynamic interaction network inference from longitudinal microbiome data. *ACM-BCB* at Niagara Falls, NY, USA.
8. Colbert, Coudray, **Ruiz-Perez**, et al. (2018). To Treat or Not to Treat: Bacterial Vaginosis and its Relationship to Human Papillomavirus. *Microbiology Society Annual Conference* at Birmingham, UK.
9. Suarez-Ulloa, Aguiar-Pulido, **Ruiz-Perez**, Narasimhan, Eirin-Lopez (2016). Network-based analysis of chromatin-associated gene expression dynamics in response to environmental stress. *ISMB* at Orlando, USA.

Other Conference presentations:

MIDAS Annual Symposium (2019) at Ann Arbor, USA. *International Young Investigators Meeting* (2018, 2019) at A Coruña, Spain. *ABCIS* (2018) at Miami, USA. *IWBBIO* (2016) at Granada, Spain. *ICBR* (2014) at A Coruña, Spain