Daniel Ruiz-Perez

Phone: 786-585-2184. **Email**: druiz072@fiu.edu. **Location**: Miami, USA. **Visa**: F1. **Nationality**: Spain.
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HIGHER EDUCATION

Dec 2020 **Ph.D. 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 **M.S. in Computer Science. Florida International University,** Miami, USA. GPA: 4.0/4.0

Jun 2016 **M.E. in Software Engineering. University of A Coruña**, Spain.

Jun 2015 **B.S. in Computer Science. University of A Coruña**, Spain.

WORK EXPERIENCE

2021 - **Research Scientist. Facebook**, CA, USA.
Start date is March 1st, 2021.

2019 - 2020 **Dissertation Year Fellow. Florida International University**, Miami, USA.
Interaction inference and causal discovery on multi-omics time-series microbiome data.

2020 - 2020 **Machine Learning Software Engineer Summer Intern (Ph.D.). Facebook**, CA, USA.
Facebook App Monetization Ranking team. Successfully designed, built, and evaluated a ML experimental ranking framework to allow user-specific ads personalization, increasing revenue.

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 chromevol.fiu.edu. In collaboration with the CHROMEVOL group at FIU.

2012 - 2014 **Judo Instructor.** Cambre Ocio SL, A Coruña, Spain.

AWARDS RECEIVED

- **Overall Outstanding Graduate Student Award**, SCIS, Florida International University, USA, 2020
- **Dissertation Year Fellowship,** Florida International University, USA, 2019-2020.
- **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.
- **Travel Fellowships from**: Conference on Neural Information Processing Systems (NeurIPS), 2019. NeurIPS LatinX in Artificial Intelligence (LXAI) Research Workshop, 2019. ACM-IMS Summit, 2019. MIDAS Annual Symposium, 2019. International Conference on Computational Advances in Bio and medical Sciences (ICCABS), 2018. FIU GPSC: 2017, 2018, 2019. FIU SCIS: 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, 2016-2019.
- **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

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#, 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, ΥΠΕ, ΛΧΑ, 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 (2020). So you think you can PLS-DA?. *BMC Bioinformatics 21, 2.*
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 (2020). Inferring Relationships in Microbiomes from Signed Bayesian Networks. *BMC Genomics 21, 663.*
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, 2020) at A Coruña, Spain. *ABCIS* (2018) at Miami, USA. *IWBBIO* (2016) at Granada, Spain. *ICBR* (2015) at A Coruña, Spain