

Daniel Ruiz-Perez

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HIGHER EDUCATION

- Dec 2020 **Ph.D. in Computer Science. Florida International University** Miami, USA. G.P.A.: 4.0/4.0
Part of the Bioinformatics Research Group (BioRG), working modeling multi-omic heterogeneous interactions from temporally misaligned longitudinal data under a Dynamic Bayesian Network framework. Also, applying Data Mining 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. G.P.A.: 4.0/4.0
- Jun 2016 **M.S. in Software Engineering. University of A Coruña**, Spain. MS's thesis scheduled in 2020.
- Jun 2015 **B.S. in Computer Science. University of A Coruña**, Spain

WORK EXPERIENCE

- 2019–2020 **Dissertation Year Fellow. Florida International University**, Miami, USA.
Dynamic Bayesian networks for integrating 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 and 2018.
 - FIU School of Computing and Information Sciences: 2017 and 2018.
- **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

Languages	English: Proficient. Spanish, Galician: Native. Portuguese, French: Elementary.
Job Skills	Experience: Bioinformatics, Machine Learning, Data Mining, Data Analysis, Data Science, Time Series Analysis, Algorithms, Software Engineering, Back-end Web 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.
Freelancer	Developed 3 Android apps in the wellness and health area.
Other	Certified Judo instructor and 2nd Dan Judo black belt. Several times regional champion.

RESEARCH WORK

Journal publications:

1. Lugo-Martinez[†], **Ruiz-Perez[†]**, Narasimhan, Bar-Joseph (2019). Dynamic interaction network inference from longitudinal microbiome data. *BMC Microbiome*, 7:54, doi: 10.1186/s40168-019-0660-3. [†]**Equal contribution.**
2. **Ruiz-Perez**, Guan, Madhivanan, Mathee, Narasimhan. So you think you can PLS-DA? *To appear in BMC Bioinformatics*, 2019.
3. Sazal, **Ruiz-Perez**, Cickovski, Narasimhan. Inferring Relationships in Microbiomes from Signed Bayesian Networks. *To appear in BMC Bioinformatics*, 2019.
4. Coudray, **Ruiz-Perez**, et al. (2019) Effect of metronidazole on microbiomes associated with asymptomatic bacterial vaginosis (abstract). *Access Microbiology*, 1(1A). DOI:10.1099/acmi.ac2019.po0531

Conference proceedings:

1. **Ruiz-Perez**, Lugo-Martinez, Bourguignon, Mathee, Lerner, Bar-Joseph, Narasimhan (2020). Dynamic Bayesian networks for integrating multi-omics time-series microbiome data. *Submitted to RECOMB*. DOI: 10.1101/835124
2. Lugo-Martinez, **Ruiz-Perez**, Narasimhan, Bar-Joseph (2019). Dynamic interaction network inference from longitudinal microbiome data. *SMBE at Manchester*, UK. ID: SMBE-OR-195
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. **Ruiz-Perez**, Guan, et al (2018). So you think you can PLS-DA?. *International Conference on Computational Advances in Bio and medical Sciences (ICCABS)* at Las Vegas, NV, USA. DOI: 10.1109/ICCABS.2018.8542038.
5. Sazal, **Ruiz-Perez**, Cickovski, Narasimhan (2018). Inferring Relationships in Microbiomes from Signed Bayesian Networks. *ICCABS*, Las Vegas, NV, USA. DOI: 10.1109/ICCABS.2018.8542086.
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. *LXAI at NeurIPS*, Vancouver, Canada.
2. Sazal, **Ruiz-Perez**, Valdes, Cickovski, Stebliankin, Mehta, Mathee, Narasimhan (2019). Signed Causal Bayesian Networks for Microbiomes. *LXAI at NeurIPS*, 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. *STI BMJ*;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. *STI BMJ*;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. *STI BMJ*;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. *Young Researchers Abroad Conference* (2018) at A Coruña, Spain. *Annual Biomedical and Comparative Immunology Symposium* (2018) at Miami, USA. *IWBBIO* (2016) at Granada, Spain. *International Conference on Biomedical Research* (2014) at A Coruña, Spain