

## Daniel Ruiz-Perez

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**Location:** Miami, USA

**Visa Status:** F1

**Nationality:** Spain

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<https://github.com/DaniRuizPerez>

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### HIGHER EDUCATION

**2016–2020** **Ph.D. In Computer Science** (ETS GRE Quantitative: 168/170).

Florida International University (BioRG lab), Miami, USA. GPA: 4/4 (Top 1%).

I have developed in collaboration with CMU a pipeline that models heterogeneous microbial interactions under a Bayesian framework from longitudinal data. I also study Bacterial Vaginosis, applying data mining techniques to explain changes in the vaginal microbiome and have worked on the theoretical side of dimensionality reduction algorithms like PLS-DA.

**2015–2016** **M.S. in Software Engineering**

University of A Coruña, Spain. GPA: 3.52/4 (Top 5%). MS's thesis to be defended in 2019.

**2011–2015** **B.S. in Computer Science**

University of A Coruña, Spain. GPA: 3.41/4 (Top 5%).

### WORK EXPERIENCE

**2019–2019** **Data Analytics Intern**

Assurant, Miami, USA. 2019.

Summer internship in data science and ML at the advance data analytics team.

**2016–2020** **Graduate Assistant: TA (2016-2017, 2018-2019) and RA (2017-2018).**

Florida International University, Miami, USA.

Teaching Assistant of Graduate Theory of Computation, Operating Systems Principles, Introduction to Microcomputers and Academic Success Initiative Ambassador for 4 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**

Dept. of Information and Communication Technologies. University of A Coruña, Spain.

Use of machine learning to analyze genomic data and development of a bioinformatic platform accessible at [chromevol.fiu.edu](http://chromevol.fiu.edu). In collaboration with CHROMEOL group at FIU.

**2012–2014** **Judo Instructor**

Cambre Ocio SL, A Coruña, Spain.

### PERSONAL SKILLS

**Languages** **English:** Proficient. **Spanish, Galician:** Native. **Portuguese, French:** Elementary.

**Job Skills** **Experience in:** Bioinformatics, Machine Learning, Algorithms, Data Mining, Data Analysis, Time Series Analysis, Software Engineering, Back-end Web Development, Android.

**Programming Languages:** R, Python, 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, C++, Computer Vision, AWS, Azure, SCRUM.

**Other skills** Certified Judo instructor and 2nd Dan Judo black belt. Several times regional champion.

### ADDITIONAL INFORMATION

**Member of** IEEE, Microbiology Society, Golden Key International Honor Society, YPIE and AXA.

**Freelancer** Developed 4 Android apps in the wellness and health area.

## Awards

Golden Key Research Grant, Golden Key International Honor Society, 2019.  
FIU Graduate and Professional Student Committee: Conference travel fund 2017 and 2018.  
FIU School of Computing and Information Sciences: Conference travel fund 2017 and 2018.  
International Scholar Laureate Program (ISLP) Delegation on Engineering & Technology.  
Golden Key full scholarship and best project award, 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.

## RESEARCH WORK

### Journal publications:

1. Lugo-Martinez J<sup>†</sup>, **Ruiz-Perez D<sup>†</sup>**, Narasimhan G, Bar-Joseph Z (2019). Dynamic interaction network inference from longitudinal microbiome data. *BMC Microbiome* 10.1186/s40168-019-0660-3. (5-year Impact Factor: 10.903). <sup>†</sup>Equal contribution.
2. **Ruiz-Perez D**, Guan H, Madhivanan P, Mathee K, Narasimhan G. So you think you can PLS-DA? *To appear in BMC Bioinformatics*, 2019.
3. Sazal M, **Ruiz-Perez D**, Cickovski T, Narasimhan G. Inferring Relationships in Microbiomes from Signed Bayesian Networks. *To appear in BMC Bioinformatics*, 2019.

### Posters:

1. Lugo-Martinez J<sup>†</sup>, **Ruiz-Perez D<sup>†</sup>**, Narasimhan G, Bar-Joseph Z (2019). Dynamic interaction network inference from longitudinal microbiome data. Research in Computational Molecular Biology (RECOMB) at Washington, DC, USA. <sup>†</sup>These authors have contributed equally to this work.
2. **Ruiz-Perez D**, Sazal M, Park J, Cickovski T, Hajeong L, Hyunjeong C, Narasimhan G (2019). Role of gut microbiota and their temporal interactions in kidney transplant recipients. Annual Meeting of the Society for Molecular Biology and Evolution (SMBE) at Manchester, UK.
3. Coudray M, **Ruiz-Perez D**, Colbert B, Krupp K, Kumari H, Narasimhan G, Mathee K, Madhivanan P (2019). Effect of metronidazole on microbiomes associated with asymptomatic bacterial vaginosis. Microbiology Society Annual Conference at Birmingham, UK.
4. Colbert B, Coudray M, **Ruiz-Perez D**, Kumari H, Madhivanan P, Narasimhan G, Mathee K (2018). To Treat or not to Treat: Bacterial Vaginosis and its Relationship to Human Papillomavirus. Microbiology Society Annual Conference at Birmingham, UK.
5. Suarez-Ulloa V, Aguiar-Pulido V, **Ruiz-Perez D**, Narasimhan G, Eirin-Lopez JM (2016). Network-based analysis of chromatin-associated gene expression dynamics in response to environmental stress. Intelligent Systems for Molecular Biology (ISMB) at Orlando, USA.

### Conference Proceedings:

1. Lugo-Martinez J<sup>†</sup>, **Ruiz-Perez D<sup>†</sup>**, Narasimhan G, Bar-Joseph Z (2019). Dynamic interaction network inference from longitudinal microbiome data. Annual Meeting of the Society for Molecular Biology and Evolution (SMBE) at Manchester, UK. <sup>†</sup>Equal contribution.
2. **Ruiz-Perez D**, Guan H, Madhivanan P, Mathee K, Narasimhan G (2018). So you think you can PLS-DA? (Abstract and Oral Presentation). International Conference on Computational Advances in Bio and medical Sciences (ICCABS) at Las Vegas, NV, USA.
3. Sazal M, **Ruiz-Perez D**, Cickovski T, Narasimhan G (2018). Inferring Relationships in Microbiomes from Signed Bayesian Networks (Abstract). International Conference on Computational Advances in Bio and medical Sciences (ICCABS), Las Vegas, NV, USA.
4. **Ruiz-Perez D**, Colbert B, Coudray M, Mathee K, Madhivanan P, Narasimhan G (2018). Vaginal microbial profile of women with asymptomatic bacterial vaginosis in US (Abstract and Oral Presentation). Microbiology Society Annual Conference at Birmingham, UK.

**Conference presentations:** Young Researchers Abroad Conference 2018 at A Coruña, Spain. Annual Biomedical and Comparative Immunology Symposium 2018 at Miami, USA. International Work-Conference on Bioinformatics and Biomedical Engineering 2016 at Granada, Spain. International Conference on Biomedical Research 2014 at A Coruña, Spain