

Daniel Ruiz-Perez

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Location: Miami, FL, USA

Visa Status: F1

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HIGHER EDUCATION

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

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

I specialize in longitudinal analysis of microbiome data, developing a pipeline in collaboration with CMU that models microbial, metabolic and gene interactions under a Bayesian framework. With our medical collaborators I study Bacterial Vaginosis, applying data mining techniques to explain the effect of metronidazole in the vaginal microbiome. I have also worked on the theoretical side of dimensionality reduction algorithms.

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, FL (USA). 2019 Summer intern in data analysis and machine learning.

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

Florida International University, Miami, FL (USA).

Teaching experience: Theory of Computation (Graduate level), Operating Systems Principles, Introduction to Microcomputers, and Academic Success Initiative Ambassador.

2015–2016 **Software Engineer**

Aldaba Information Technology and Services, A Coruña (Spain).

Analysis, design, development, implementation and maintenance of the back-end of an expert system in Java using IBM ODM, an alarm system in case of radioactive alert in C# and a web application with Microsoft technologies in a 7 people 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. 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: RDF and Semantic Web, Lucene and Web Crawlers, Game Theory, Robotics, Videogame Development and Computer Graphics, Expert Systems, Automatic Reasoning, 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, the Microbiology Society, Golden Key International Honor Society and AXA.

- Awards**
- 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 honors. GPA: 3.98, 2011.
 - Exceptional athlete recognition, Cambre City Council, 2007-2010.
- Freelancer**
- Developed 4 Android apps in the wellness and health area.

RESEARCH WORK

Journal publications:

1. Lugo-Martinez J[†], **Ruiz-Perez D[†]**, 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). [†]These authors have contributed equally to this work.
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[†], **Ruiz-Perez D[†]**, Narasimhan G, Bar-Joseph Z (2019). Dynamic interaction network inference from longitudinal microbiome data. Research in Computational Molecular Biology (RECOMB) at Washington, DC (USA). [†]These authors have contributed equally to this work.
2. 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).
3. 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, FL (USA).

Conferences:

1. **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).
2. 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).
3. **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).
4. 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 (Abstract). Microbiology Society Annual Conference at Birmingham (UK).
5. **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 (Oral Presentation). Annual Biomedical and Comparative Immunology Symposium at Miami, FL (USA).
6. **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).

- Speaker at:**
- International Work-Conference on Bioinformatics and Biomedical Engineering 2016 at Orlando (US), International Conference on Biomedical Research 2014 at A Coruña (Spain) and Young Researchers Abroad Conference 2018 at A Coruña (Spain).