Daniel Ruiz-Perez

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Location: Miami, FL, USA Visa Status: F1 Nationality: Spain

https://daniruizperez.github.io https://github.com/DaniRuizPerez https://www.linkedin.com/in/daniel-ruiz-perez

HIGHER EDUCATION

2016–2020 Ph.D. In Computer Science

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

I work at the Bioinformatics Research Group (BioRG), specializing in longitudinal analysis of microbiome data. With our collaborators in Carnegie Mellon University, we have developed a pipeline that temporally aligns longitudinal samples and models microbial interactions with Dynamic Bayesian Networks using an extended-by-us version of CGBayesNet.

With our strong medical collaborators, I study Bacterial Vaginosis (BV), applying machine learning and data mining techniques to explain the effect of metronidazole in the vaginal microbiome. I also work 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%).

All coursework completed. Master's thesis to be defended in Fall 2019.

2011–2015 B.S. in Computer Science

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

Senior project collaborating with CHROMEVOL: Use of machine learning to analyze genomic data and development of a bioinformatic platform accessible at chromevol.fiu.edu.

WORK EXPERIENCE

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 for Programming I and II, Discrete Math and Discrete Structures.

2015–2016 Software Engineer

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

Analysis, design, development, implementation and maintenance of: an expert system in Java using IBM ODM, an alarm system in case of radioactive alert in C#, and the back-end of 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 ML to analyze genomic data and development of a bioinformatics application.

2012–2014 Judo Instructor

Cambre Ocio SL, A Coruña (Spain).

PERSONAL SKILLS

Languages

Spanish, **Galician**: Native

English: Full professional proficiency (TOEFL iBT: 104/120).

Portuguese, **French**: Elementary proficiency.

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 and competitor in international championships.

RESEARCH WORK

Publications:

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) at Las Vegas, NV (USA).
3. Lugo-Martinez J*, **Ruiz-Perez D***, Narasimhan G, Bar-Joseph Z (2018). Dynamic interaction network inference from longitudinal microbiome data. *These authors have contributed equally to this work. https://www.biorxiv.org/content/early/2018/10/01/430462.
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).
5. 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 (Poster). Microbiology Society Annual Conference at Birmingham (UK).
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 (Oral Presentation). Annual Biomedical and Comparative Immunology Symposium 2018 at Miami, FL (USA).
7. 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 (Poster). Intelligent Systems for Molecular Biology (ISMB) at Orlando, FL (USA).

Speaker at:

1. International Work-Conference on Bioinformatics and Biomedical Engineering 2016 (IWBBIO) at Orlando, FL (USA) presenting "Network-inspired approaches for transcriptomic analyses".
2. International Conference on Biomedical Research 2014 at A Coruña (Spain), presenting "Bioinformatic Platform for the storage and query of massive sequencing data."
3. Young Researchers Abroad Conference 2018 at A Coruña (Spain), presenting “Dynamic interaction network inference from longitudinal microbiome data.”

ADDITIONAL INFORMATION

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.

Member of IEEE and the Microbiology Society.

Golden Key International Honor Society and Lambda Chi Alpha (High Rho Position held).

Exams ETS GRE Quantitative: 168/170.

Freelancer Developed 4 Android apps: https://play.google.com/store/apps/developer?id=Curae&gl=es.