Rafael A. Jiménez Silva

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EDUCATION

Masters in Public Health (MPH)   May 2018
Concentration: Biostatistics
University of Puerto Rico-Medical Sciences (UPR-RCM)

Bachelor of Arts (BA)   May 2017
Concentration: Psychology
University of Puerto Rico-Río Piedras (UPR-RP)

WORK EXPERIENCE

Statistician   2022 - Present
National Institutes of Health   Bethesda, MD
Department of Rehabilitation Medicine, Epidemiology and Biostatistics Section

- Performed experimental investigations and similar research projects utilizing extensive applications of mathematical and statistical methodologies
- Developed original computer code and programs for the application of new mathematical and statistical theories for the solution of proposed problems related to various scientific studies.
- Used statistical software packages to manage, maintain and analyze large, complex statistical databases.
- Entered and verified data fields and data dictionaries.
- Collected and analyzed mathematical data and performed descriptive and missing data analyses.
- Tracked and documented all modifications, errors and changes to all databases and decisions.
- Developed and coordinated training program for staff in statistical analysis.

Data Analyst   2019 - 2022
National Institutes of Health   Bethesda, MD
Department of Rehabilitation Medicine, Epidemiology and Biostatistics Section

- Worked as a medical text annotator for the section's ongoing Natural Language Processing (NLP) projects using the open source tool General Architecture for Text Engineering (GATE). Participated in the development of annotation guidelines and schemas.
- Actively participated in the development of Quality Assurance (QA) processes and software. This included the development of sampling methodologies, application of Inter-Rater Reliability (IRR) measures and extensive error analysis documents using Python.
- Wrote several python scripts to aid annotators in their error analysis process.
- Curated data and directories for common use in the department's share-drive.
- Provided statistical support to the Rehabilitation Medicine Department. This included but was not limited to: data visualization, descriptive statistics, inferential statistics and other multivariate analysis using R as well as database structure consults. Participated in the writing process of several manuscripts.

Graduate Research Assistant   2017 - 2018
University of Puerto Rico   San Juan, PR
Medical Sciences Campus, School of Public Health

- Implemented a brownian bridge simulation process into an algorithm for missing data imputation using R.
- Responsible for conducting data analysis on environmental health doctorate thesis projects.

Undergraduate Research Assistant   2016 - 2017
University of Puerto Rico   Río Piedras, PR
Río Piedras Campus, Department of Social Sciences

- Performed non parametric statistics using SPSS to study differences between HIV/HCV coinfection, and HCV mono-infection in neurocognitive executive functions.
- Collaborated in the creation of manuals and weekly meetings with the research team.

INTERNSHIPS
Medical Interpreter   Fall 2018
National Institutes of Health   Bethesda, MD
Department of Social Work

- Provided language services to non-English-speaking patients to help them communicate with doctors, nurses and other medical staff.
- Assisted in and out patients and their family members throughout the medical center.

CONFERENCE PUBLICATIONS

Jiménez-Silva, R., Gedela, K., Marr, A., Desmet, B., Rose, C., & Zhou, C. (2022, July). QA4IE: A Quality Assurance Tool for Information Extraction. In LREC 2022.

Zirikly, A., Desmet, B., Porcino, J., Camacho-Maldonado, J., Ho, P., **Jiménez-Silva, R.**, Sacco, M. (2022, July). A Whole Person Function Dictionary for the Mobility, Self-Care and Domestic Life Domains: a Seedset Approach. In LREC 2022.

Rodríguez-Benitez R., Raber J., Algaze A.,[et al, including **Jiménez-Silva R.]**,*Epidemiological Profile of Human Immunodeficiency Virus (HIV+)/Hepatitis C Virus (HCV) Co-Infection in Puerto Rican Women Cohort*. Puerto Rico Health Sciences Journal.Volume 36, Number 1 (Supplement)

Rodríguez-Benitez R., Raber J., Algaze A.,[et al, including **Jiménez-Silva R.].** (2017). *Association Among Spatial Memory, Brain Derived Neurotrophic Factor, and Hippocampal Volumes in HIV-seropositive (HIV+)Women*. Journal of Abstracts and Conference Reports from the 7th InternationalWorkshops on Infectious Diseases and Antiviral Therapy. Abstract 62

JOURNAL PUBLICATIONS

Fick, C. N., **Jiménez-Silva, R.**, Sheehan, F. T., & Grant, C. (2022). Patellofemoral kinematics in patellofemoral pain syndrome: The influence of demographic factors. *Journal of Biomechanics*, *130*, 110819.

Farrell, K., Comis, L. E., Casimir, M. M., Hodsdon, B., **Jiménez‑Silva, R.**, Dunigan, T., ... & Jha, S. (2022). Occupational Engagement, Fatigue and Upper and Lower Extremity Abilities in Persons with Melorheostosis. *PM&R*.

Shrader, J. A., Sansare, A., Shieh, V., Woolstenhulme, J. G., Rekant, J., **Jiménez-Silva, R.**, ... & Zampieri, C. (2021). Dynamic Balance in Spinal and Bulbar Muscular Atrophy: Relationship between Strength and Performance of Forward Lunge, Step Up and Over, and Step Quick Turn. *Rehabilitation Research and Practice*, *2021*.

Farrell, K., Sanei, M., Comis, L., **Jiménez-Silva, R.**, & Jha, S. (2021). Impact of Melorheostosis on Fatigue and Activity Engagement. *The American Journal of Occupational Therapy*, *75*(Supplement_2), 7512505081p1-7512505081p1.

Thornton, J., **Jiménez-Silva, R.**, Ho, P. S., Joe, G., Dunigan, T., & Comis, L. (2020). Activity Participation and Health-Related Quality of Life (QoL) in Patients With Chronic Graft-Versus-Host Disease (cGVHD). *The American Journal of Occupational Therapy*, *74*(4_Supplement_1), 7411500072p1-7411500072p1.

Newman-Griffis, D., Camacho Maldonado, J., Ho, P. S., Sacco, M., **Jiménez-Silva, R.**, Porcino, J., & Chan, L. (2021). Linking Free Text Documentation of Functioning and Disability to the ICF with Natural Language Processing. *Frontiers in Rehabilitation Sciences*, 67.

Thornton, J. J., Joe, G. O., **Jiménez-Silva, R.**, Ho, P. S., Dunigan, T., Mitchell, S. A., ... & Comis, L. E. (2020, February). Goniometric and Photographic Measures of Range of Motion in Persons with Chronic Graft Versus Host Disease. In *2020 TCT| Transplantation & Cellular Therapy Meetings of ASTCT and CIBMTR*. Tandem Meetings.

POSTER PRESENTATIONS
Jiménez-Silva R., Zhou, C., Desmet B. et al. (2020, Nov 14 - 18). *Curating Annotated Corpora for Functioning Information*. Poster presented at the American Medical Informatics Association 2020 Virtual Annual Symposium (AMIA).

SKILLS AND INTERESTS
Language Fluent in written and oral English and Spanish. Beginner level French.
Computer Skills Microsoft Office, STATA, Python, R, and LaTEX.
Interests NLP, Music, Foreign Languages, and Art.