

Raul Cruz-Cano

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EDUCATION

Ph.D. in Computer Engineering, Department of Electrical and Computer Engineering, University of Texas at El Paso

January 2002 - May 2005 GPA: 4.0/4.0 Advisor: Dr. Patricia Nava
Dissertation: Creation and Optimization of Fuzzy Inference Neural Networks
The software associated with this research was designed and implemented in a 40-CPU Beowulf computer cluster using the communications protocol for parallel computers MPI

Master Degree in Statistics, Department of Mathematical Sciences, University of Texas at El Paso

January 2000- January 2002 GPA: 3.8/4.0 Advisor: Dr. P. Nava/Initiated under Dr. J. Rojo
Master Thesis: On Markov Chain Methods for Neural Networks

Bachelors Degree in Computer Systems Engineering, College of Engineering, Autonomous University of Chihuahua

August 1995- December 1999 GPA 3.7/4.0 Specialty: Computer Hardware

PROFESSIONAL EXPERIENCE

Associate Research Professor, Department of Epidemiology and Biostatistics, University of Maryland-College Park

January 2010-Present

Duties:

- Teach the series of graduate classes:
 1. EPIB786 “Capstone Project in Public Health”(Spring 2021: Carissa Kwan)
 2. SPHL602 “Foundations of Epidemiology and Biostatistics”-Online and Face-to-Face (Fall 2018, Summer 2019, Fall 2019, Summer 2020, Fall 2020).
 3. SPHL603 “Public Health Data Laboratory”-Online (Fall 2018, Summer 2019, Fall 2019, Summer 2020, Fall 2020).
 4. EPIB663 “SAS Programming” (Spring 2011, Fall 2011, Spring 2012, Summer 2012, Spring 2013, Summer 2013, Fall 2013, Summer 2014, Fall 2014, Summer 2015).
 5. EPIB650 “Biostatistics I”-Online (Spring 2014, Spring 2015, Spring 2016, Spring 2019).
 6. EPIB650 “Biostatistics I” (Fall 2016).
 7. EPIB651 “Biostatistics II”- (Spring 2017, Fall 2017, Spring 2018).
 8. EPIB697 “Public Health Data Management” (Fall 2015, Spring 2016, Fall 2016, Summer 2017, Fall 2017, Summer 2018, Fall 2018, Fall 2019, Summer 2020, Fall 2020).
 9. EPIB798 “Individual Studies” (Spring 2018: Sarah R. Irvin, Spring 2020: Manyun Zhao)
- Teach the doctoral class HLTH653 “Quantitative Research Methods II in Public Health” (Spring 2013)
- Develop and teach the undergraduate classes:

1. EPIB315 “Biostatistics for Public Health Practice” (Spring 2014, Spring 2015, Spring 2016, Fall 2016, Spring 2017, Spring 2018, Fall 2019)
 2. Online version of EPIB315 “Biostatistics for Public Health Practice” (Summer 2017, Summer 2018, Summer 2019, Summer 2020, Fall 2020)
 3. EPIB399 “Individual Studies” (Fall 2017: Nirvan Jalali)
 4. EPIB463 “Introduction to Biostatistical Programming” (Spring 2019, Summer 2019, Spring 2020, Summer 2020, Spring 2021)
- Prepare computer programming codes to conduct statistical analysis for collaborative research projects at the University of Maryland’s Tobacco Center for Regulatory Science (TCORS). These projects include the statistical analysis of:
 1. Puff Behaviors during Cigarette and Little Cigar Use.
 2. Effect of flavor and nicotine in smokeless tobacco products using electroencephalography.
 3. The association between Florida's smoke-free policy and acute myocardial infarction using the H-CUP data.
 4. The influence of tobacco on vulnerable populations using the PATH data set.
 - Prepare computer programming codes to conduct Bioinformatics and Biostatistical computations for collaborative research projects. These projects include the statistical analysis of:
 1. Geostatistical Analysis of the CDC’s Foodborne Pathogen Surveillance System (FoodNet) Dataset (in collaboration with the Maryland Institute for Applied and Environmental Health).
 2. The Prostate Specific Antigen Velocity and other Dietary, Clinical and Urine Isoflavones in a Crossover Experiment for Soy Bread (in collaboration with The Ohio State University).
 3. Public Health and Primary Care Integration through Enhanced Public Health Information Technology (PHIT) Maturity: A Case for Behavioral Health (in collaboration with the University of Maryland School Of Business).
 4. The Youth Risk Behavior Surveillance System Survey for Cecil County Maryland.
 5. Healthier Maryland Tenant Survey (in collaboration with the Maryland Department of Health & Mental Hygiene)
 - Collaborate with investigators on grant applications, data analysis, and manuscript preparation with staff and faculty from a multitude of institutions such as the Maryland Institute of Applied Environmental Health, Montgomery County’s Health Department and Prince George’ Hospital Center.
 - Develop independent research areas applicable to the University of Maryland’s School of Public Health.
 - Webmaster for several sites associated with the Biostatistics and Risk Assessment Center.

Assistant Professor, Department of Computer Science, Texas A&M University-Texarkana

September 2007-December 2009

Duties:

- Producing knowledge and performance in professional/creative activities essential of faculty roles.
- Teaching the upper-level undergraduate Computer Science courses:
 1. CIS 340 “Computer Architecture” (Fall 2007)
 2. CIS 370 “Programming Language Design” (Spring 2008)
- Teaching the upper-level undergraduate Mathematics and Statistics courses:
 1. MATH 315 “Differential Equations” (Spring 2009)-Long Distance
 2. MATH 415 “Numerical Analysis” (Spring 2008)
 3. MATH 453 “Statistics” (Summer 2008, Spring 2009, Spring 2009)
 4. MATH 457 “Probability and Statistics” (Summer2009)

5. Teaching the graduate course MATH 597 “Multivariate Statistics” (Fall 2009).
6. Teaching Evaluations have an average grade of 4.5/5.0

Postdoctoral Fellow, Bioinformatics Program, Department of Mathematical Sciences University of Texas at El Paso

June 2005- August 2007

Duties:

- Use computational methods, mainly neural networks and support vector machines; to predict and perform a feature selection process the location of replication origins in viruses, specifically, herpesviruses and caudoviruses.
- The publication of scientific papers detailing the results obtained from the research mentioned above, the presentation of them in different conferences and seminars and the drafting of a grant proposal to obtain funding for projects associated with it.
- Teach the graduate course BINF 5112 “Computer Science Seminar for Bioinformatics”.

Lecturer, Department of Electrical and Computer Engineering, University of Texas at El Paso

August 2006 – May 2007

Duties:

- Teaching the upper-level undergraduate course EE 3438 “Electronic Networks.”
- The regular preparation of class material, exam and homework.
- Maintain office hours for the correction of students' class work and homework.
- Complying with University policy and requirements for ABET accreditation.

Teaching and Research Associate, Department of Electrical and Computer Engineering, University of Texas at El Paso

August 2002-May 2005

Duties:

- Teach selected topics in EE 2369 “Digital Systems Design I”.
- Help to implement a new educational paradigm in which the WWW is used in almost every aspect of an undergraduate class, from the assignment of homework and the creation of quizzes online to providing help via e-mail.
- Participate in the transformation of a set of informal coaching sessions into a formal class EE 2169 “Laboratory for EE 2369”.
- Participated in multi-disciplinary teams to research various concepts and applications related to soft computing, such the creation of solutions for the sleep stage classification problem of rats using EEG data.
- Participated in the project “Modeling Asphalt Deformation due to Transport Overload with Neural Networks,” a TX Department of Transportation sub-project in collaboration with the UTEP Civil Engineering Department.

Teaching and Research Assistant, Department of Mathematical Sciences, University of Texas at El Paso

January 2000-July 2002

Duties:

- Assist with the writing of papers for publication (LaTeX).
- Prepared and organized data for publications.
- Graduate Research: Markov Chain Monte Carlo Methods: Basic Concepts and Applications.
- Graded papers and exams for different math courses: Differential Equations, Probability, Calculus II,

AWARDS

2009	Inducted to Eta Kappa Nu, the Honor Society for Electrical and Computer Engineers
2002-2005	UTEP Scholarship of Excellence
2005	Inducted to Tau Beta Pi, the Honor Society for Engineers
2001	Outstanding Graduate Student Award, College of Science, University of Texas at El Paso
1999	Highest GPA Award, College of Engineering, Autonomous University of Chihuahua

GRANTS

Submitted

- Statistician, R2A (PI: Dr. Devlon Nicole Jackson), Title: Smartphone Use to Improve PPC Among African Americans Living with CKD, Funding agency: NIH, (Effort=5% for three years).
- Co-Director, (PI: Dr. M.L.T. Lee), Title: Summer Institute in Biostatistics and Data Science, Funding agency: NIH, (Effort=4.17% for 1 years)
- Statistician, (PI: Dr. Sacoby Wilson), Title: Chesapeake Stormwater and Health Sustainability Network, Funding agency: NSF, (Effort=10% for four years).
- Statistician, R2A (PI: Dr. Sacoby Wilson), Title: DC Area Health and Air Quality Management Partnership (CHAMP), Funding agency: NIH-NIEHS, (Effort=10% for four years).
- Statistician, R01 (PI: Dr. Devon Corcia Payne-Sturges), Title: Multidisciplinary and Systems Approaches to Preventing the Spread of COVID-19 among Migrant Farmworkers and Their Surrounding Communities, Funding agency: NIH, (Effort=10% for 5 years).
- Statistician, R01 (PI: Dr. Melani Anita Solomon), Title: Novel Multimodular enzymes for replacement therapy of neurological lysosomal diseases, Funding agency: NIH, (Effort=4% for two years). Total \$2,215,968
- Statistician, NASA ROSES-2020 (PI: Dr. Sacoby Wilson), Title: Advancing Community Trust & Inclusion via Outreach with NASA Environmental Data (ACTION-ED), Funding agency: NASA, (Effort=10% for four years).
- Statistician, R01 (PI: Dr. Amir Sapkota), Title: Extreme heat event, air pollution and end-stage renal, Funding agency: NIH, (Effort=25% for four years).

Upcoming

- Statistician, KL99/R00 grant submission (PI: Dr. Julia Chen), Title: The influence of e-cigarette advertisement features, Funding agency: NIH/FDA, Total budget: \$928,732, Effort=5% for five years).

Ongoing

- Statistician, Belmont grant (PI: Dr. Amir Sapkota), title: Addressing Extreme Weather Related Diarrheal Disease Risks in the Asia Pacific Region, Effort=13% for one year, Fall 2020-Summer 2021.Total: : \$330,000
- Co-I, Rapid Response Project at USC TCORS “Evaluating the Influence of Local Flavored E-Cigarette Sales Restrictions on E-Cigarette and Other Tobacco Use Outcomes Among Vulnerable Populations”, (PI: Dr. Julia Chen), Effort=30% for one year, Fall 2020-Summer 2021.

Completed

- Co-Investigator, Communicating Health Effects of Waterpipe Use to Young Adults Using Immersive Virtual Reality (Principal Investigator: Dr. A. Kidanu), Funding Agency: TCORS Pilot Program, NIH/FDA, Period of Performance: Sept 2017—August 2019, Amount: \$40,000, 5% of salary for 1 year. *Status: Granted and Completed.*
 - Co-Investigator, P-50 Rapid Response Characterization of New and Manipulated Tobacco Products, NIH, \$19,000,000, 2013-2018, *Status: Granted* (Principal Investigator: P.I. Clark, Research Professor, Department of Behavioral and Community Health, University of Maryland). 35% of salary for 5 years.
 - Co-Principal Investigator, Research Supplements to Promote Diversity in Health-Related Research for the currently funded NIH R01: Air Pollution, Subclinical CVD and Inflammatory Markers in the SEARCH Cohort, \$171,026.00 (R01 Principal Investigator: Dr. R. Puett), Awarded. 23% of salary for 2 years. *Status: Granted and Completed.*
 - Co-Investigator, Public Health and Primary Care Integration through Enhanced Public Health Information Technology (PHIT) Maturity: A Case for Behavioral Health, Robert Wood Johnson Family Foundation, \$200,000, September 2013-September 2015, *Status: Granted* (Principal Investigator: Dr. A. Agarwal, Chair, Information Systems Decision, Operations and Information Technologies Department, University of Maryland). 3% of salary for 2 years.
 - Co-Principal Investigator, “Advanced Robotics Camp”, Texas Workforce Commission’s Summer Merit Program, \$43,000.00, Summer 2010. *Status: Granted and Completed by Co-PI.*
 - Project Leader, “Robotics Camp for Middle and High School Underrepresented Students with Emphasis in Role Models”, The Texas Higher Education Coordinating Board, \$11,111.00. Texas A&M-Texarkana provided \$7,500.00 additional funds, Summer 2009. *Status: Granted and Completed.*
 - Co-Principal Investigator for the grant proposal: Texas Workforce Commission Contract/Amendment Number: 0708WSW000, “Texas Engineering and Technical Consortium Phase III funding for peer-mentoring programs, work-based learning and scholarship funds”, \$115,000.00, September 2007-August 2008. *Status: Granted and Completed.*
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PUBLICATIONS

Journal Submissions/Under Review

- A. Kidanu, R. Shi, **R. Cruz-Cano**, R. Feldman, J. Butler, T. Dyer, C. Fryer, P. Clark, “*Health Information on Waterpipe Lounge Menus to Educate Young Adults: Pilot Study Findings*”, revision submitted to the journal Health Education & Behavior, March 2021.
- R. Murray, **R. Cruz-Cano**, D. Nasko, D. Blythe, P. Ryan, M. Boyle, S. Wilson, A.R. Sapkota, “*Prevalence of Private Drinking Water Wells Impacts Salmonellosis Incidence in Maryland, USA: An Ecological Analysis Using Foodborne Diseases Active Surveillance Network (FoodNet) Data (2007-2016)*”, revision submitted to the journal Science of the Total Environment, March 2021.
- Z. Ye, H. Ke, S. Chen, **R. Cruz-Cano**, X. He, J. Zhang, J. Dorgan, D. Milton, T. Ma, “*Biomarker categorization in transcriptomic meta-analysis by concordant patterns with application to Pan-cancer studies*”, revision submitted to the journal Frontiers in Genetics, March 2021.

- R. Ghosh, M. Haque, P.C. Turner, **R. Cruz-Cano**, C. M. Dallal, “*Racial and Sex Differences between Urinary Phthalates and Metabolic Syndrome among U.S Adults: NHANES 2005-2014*”, submitted to the journal Endocrine, February 2021.

Journal Publications

- **R. Cruz-Cano**, T. Ma, Y. Yu, M. Lee, H. Liu, “Forecasting COVID-19 Cases based on Social Distancing in Maryland, U.S.A.: A Time –Series Approach”, accepted in the journal Disaster Medicine and Public Health Preparedness, April 2021.
- H. Liu, C. Chen, **R. Cruz-Cano**, J. Guida, M. Lee, “*Public Compliance with Social Distancing Measures and SARS-CoV-2 Spread: A Quantitative Analysis of 5 States*”, accepted in the journal Public Health Reports, April 2021. DOI: 10. 1177/ 0033 3549 2110 11254.
- B.E. Schwartz, P. Gandhi, D. Najafali, M. Meade Gregory, N. Jacob, T. Helberg, C. Thomas, B.J. Lowie, M.A. Huis in ’t Veld, **R. Cruz-Cano**, “*Manual Palpation Versus Femoral Arterial Doppler Ultrasound for Comparison of Pulse Check Time During Cardiopulmonary Resuscitation in the Emergency Department*” accepted in the Journal of Emergency Medicine, March 2021.
- Y. Lama, S. C. Quinn, X. Nan, **R Cruz-Cano**, “*Social media use and Human papillomavirus awareness and knowledge among adults with children in the household: examining the role of race, ethnicity, and gender*”, accepted in the journal Human Vaccines & Immunotherapeutics, October 2020. DOI: 10.1080/21645515.2020.1824498
- R. Murray, **R. Cruz-Cano**, D. Nasko, D. Blythe, P. Ryan, M. Boyle, S. Wilson, A.R. Sapkota, “*Association between Private Drinking Water Wells and the Incidence of Campylobacteriosis in Maryland: An Ecological Analysis Using Foodborne Diseases Active Surveillance Network (FoodNet) Data (2007-2016)*”, Environmental Research. 2020 Jun;188:109773. DOI: 10.1016/j.envres.2020.109773.
- B. Schwartz, K.K. Baker, A.J Bleinberger, A. Lleshi, **R. Cruz-Cano**, “*Intravenous Haloperidol For The Treatment of Intractable Vomiting, Cyclical Vomiting, and Gastroparesis*”, accepted in the World Journal of Emergency Medicine, May 2020.
- R. Ezeugoh, R.A. Puett, D. Payne-Sturges, **R. Cruz-Cano**, S. M. Wilson, “*Air Quality Assessment of Particulate Matter (PM) Near a Concrete Block Plant and Traffic in Bladensburg, Maryland*”, accepted in the journal Environmental Justice, April 2020.
- A. Groom, **R. Cruz-Cano**, E. Mead, A.L. Giachello, J.L. Hart, K.L. Walker, C. Oncken, R.M. Robertson, “*Tobacco Point-of-Sale Influence on U.S. Adult Smokers*”, Journal of Health Care for the Poor and Underserved, Volume 31, Number 1, February 2020, pp. 249-264.
- R. Ezeugoh, R.A. Puett, D. Payne-Sturges, **R. Cruz-Cano**, S. M. Wilson, “*Air Quality Assessment of Volatile Organic Compounds(VOCs) Near a Concrete Block Plant and Traffic in Bladensburg, Maryland*”, Environmental Justice, December 2019, Vol.12, No.6, pp. 250-260. <https://doi.org/10.1089/env.2019.0017>
- **R. Cruz-Cano***, M. Rangel-Gomez*, C. Van Wagoner, A. Kidanu, P.I. Clark (*these authors contributed equally to this work), “*The acceptability of tobacco products depends on nicotine levels and not on delivery method*”, Addictive Behaviors Reports, December 2019, DOI 10.1016/j.abrep.2019.100217.
- **R. Cruz-Cano**, E. Mead “*Estimation of the Causes of Excess Deaths in Puerto Rico after Hurricane*

Maria using a Time-Series Model”, July 2019, American Journal of Public Health, no. 109, pp. 1050-1052. DOI: 10.2105/AJPH.2019.305015.

- **R. Cruz-Cano**, E. Mead “*Excess Deaths after Hurricane Maria in Puerto Rico*”, Journal of the American Medical Association, March 2019, JAMA. 2019;321(10):1005. doi:10.1001/jama.2018.20861
- M. Rangel-Gomez*, **R. Cruz-Cano***, M. Bachman, A. Kidanu, E. Bernat, P. Clark (*these authors contributed equally to this work), “*Dissociating the effect of flavor and nicotine in smokeless tobacco products using electroencephalography: The case of wintergreen flavors*”, Addictive Behaviors, November 2018, pii: S0306-4603(18)31311-X. doi: 10.1016/j.addbeh.2018.11.013.
- E. Mead, **R. Cruz-Cano**, A. Groom, J. Hart, K. Walker, A. Giachello, R. M. Robertson, C. Oncken, “*Responses to cigarette health warning labels, harm perceptions and knowledge in a national sample of pregnant and non-pregnant women of reproductive age*”, Addictive Behaviors, 90:10-13, October 2018, DOI: 10.1016/j.addbeh.2018.10.013.
- P.K. Crowley, A. Mishra, **R. Cruz-Cano**, R. Gold, D. Kleinman, R. Agarwa “*Electronic Health Record Implementation Findings at a Large, Suburban Health and Human Services Department*”, Journal of Public Health Management & Practice, Epub ahead of print January 2018. doi: 10.1097/PHH.0000000000000768
- J. Chopyk, S. Chattopadhyay, P. Kulkarni, E. Claye, K.R. Babik, M.C. Reid, E.M. Smyth, L.E. Hittle, J.N. Paulson, **R. Cruz-Cano**, M. Pop, S.S. Buehler, P.I. Clark, A.R. Sapkota and E.F. Mongodin, “*Mentholation affects the cigarette microbiota by selecting for bacteria resistant to harsh environmental conditions and selecting against potential bacterial pathogens*”, Microbiome, Volume 5, Issue 22, February 2017, DOI: 10.1186/s40168-017-0235-0.
- E. Mead, **R. Cruz-Cano**, D. Bernat, L. Whitsel, J. Huang, F. Chaloupka, C. Sherwin, R.M. Robertson. “*Association between Florida's smoke-free policy and acute myocardial infarction by race: A time series analysis, 2000-2013.*”, Preventive Medicine, Volume 92, pages 169-175, November 2016, doi:10.1016/j.ypmed.2016.05.032.
- K.S. Shaw, **R. Cruz-Cano**, C. Jiang; L. Mayalil, D. Blythe, P. Ryan, A.R. Sapkota, “*Presence of Animal Feeding Operations and Community Socioeconomic Factors Impact Salmonellosis Incidence Rates: Foodborne Diseases Active Surveillance Network (FoodNet), 2004-2010*”, Environmental Research, Vol. 150, pages 166–172, October 2016, DOI: 10.1016/j.envres.2016.05.049.
- R.E. Rosenberg-Goldstein, **R. Cruz-Cano**, C. Jiang, A. Palmer, D. Blythe, P. Ryan, B. Hogan, B. White, J.R. Dunn, T. Libby, M. Tobin-D’Angelo, J. Huang, S. McGuire, K. Scherzinger, M.-L. T. Lee, A. R. Sapkota, “*Association between Community Socioeconomic Factors, Animal Feeding Operations, and Campylobacteriosis Incidence Rates: Foodborne Diseases Active Surveillance Network (FoodNet), 2004-2010*”, BMC Infectious Diseases, Volume 16:354, July 2016, DOI 10.1186/s12879-016-1686-9.
- G.A. Buzzell, B. Das, **R. Cruz-Cano**, L.E. Nkongho, A.W. Kidanu, H. Kim, P.I. Clark, C.G. McDonald. “*Using Electrophysiological Measures to Assess the Consumer Acceptability of Smokeless Tobacco Products*”, February 2016, Nicotine & Tobacco Research, published ahead of print February 2016, doi: 10.1093/ntr/ntw041.
- J.H. Ahn-Jarvis, S. K. Clinton, , E.M. Grainger, K. Riedl, S.J. Schwartz, M.L.-T. Lee, **R. Cruz-Cano**, G.S. Young , G.B. Lesinski , Y. Vodovotz, “*Isoflavone pharmacokinetics and metabolism after consumption of a standardized soy and soy-almond bread in men with asymptomatic prostate*

cancer”, *Cancer Prevention Research*, Volume 8(11), Pages 1045-1054. August 2015, doi: 10.1158/1940-6207.CAPR-14-0465.

- A.R. Sapkota, E.L. Kinney, A. George, R.M. Hulet, **R. Cruz-Cano**, K.J. Schwab, G. Zhang, S.W. Joseph, “*Lower Prevalence of Antibiotic-resistant Salmonella on Large-Scale U.S. Conventional Poultry Farms that Transitioned to Organic Practices*”, *Science of the Total Environment*, Volumes 476–477, Pages 387–392, April 2014, doi: 10.1016/j.scitotenv.2013.12.005
- **R. Cruz-Cano** and M.-L.T. Lee, “*Fast Regularized Canonical Correlation Analysis*”, *Computational Statistics and Data Analysis*, Volume 70, Pages 88–100, February 2014, <http://dx.doi.org/10.1016/j.csda.2013.09.020>.
- B.Z. Pasturel, **R. Cruz-Cano**, R.E. Rosenberg Goldstein, A. Palmer, D. Blythe, P. Ryan, B. Hogan, C. Jung, S.W. Joseph, M.Q. Wang, M.L.T. Lee, R. Puett, S. Wilson, and A.R. Sapkota, “*Impact of Rurality, Broiler Operations, and Community Socioeconomic Factors on the Risk of Campylobacteriosis in Maryland*”, *American Journal of Public Health*, Vol.103, No. 12, December 2013: 2267–2275. DOI:10.2105/AJPH.2013.301338.
- J.C. Briones, B. Flores and **R. Cruz-Cano**, “*Multi-Mode Radar Target Detection and Recognition using Neural Networks*”, *International Journal of Advanced Robotics Systems*, 2012, Vol. 9, 177:2012, DOI: 10.5772/52073.
- **R. Cruz-Cano**, M.-L.T. Lee and M.Y. Leung, “*Logic Minimization and Rule Extraction for Identification of Functional Sites in Molecular Sequences*”, *BioData Mining*, Vol. 5, Issue 10, August 2012, DOI:10.1186/1756-0381-5-10
- **R. Cruz-Cano**, M.Y. Leung, K.P. Choi and D. Chew, “*Least-Squares Support Vector Machine Approach to Viral Replication Origin Prediction*”, *INFORMS Journal of Computing*, Vol. 22, No. 3, Summer 2010, pp. 457-470, DOI:10.1287/ijoc.1090.0360

Conference Proceedings

- C. Aguilar-Bonavides*, **R. Cruz-Cano***, C. Lanzas. “*Prediction and rule extraction of major histocompatibility complex class II epitopes by logic minimization*” (*these authors contributed equally to this work), *Proceedings of the 2014 International Conference on Bioinformatics & Computational Biology*, Las Vegas, NV, pp. 167-173.
- **R. Cruz-Cano** and M.Y. Leung, “*Comparison of Feature Selection Techniques for Viral DNA Replication Origin Prediction*”, *Proceedings of the 2009 IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology*, Nashville, TN, March 2009, pp. 128-134.
- **R. Cruz-Cano** and I. Aizenberg “*Soft Computing Methods for Prediction of Replication Origins in Caudoviruses*”, *Proceedings of the IEEE Computer Society’s 38th International Symposium on Multiple-Valued Logic*, pp. 156-162, Dallas, Texas, May 2008
- **R. Cruz-Cano**, M.Y. Leung and D. Chandran “*Computational Prediction of Replication Origins in Herpesviruses*”, *Proceedings of the 2007 IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology*, pp. 283-290, Honolulu, Hawaii
- **R. Cruz-Cano**, P. Nava and D. Williams “*A Parallel Genetic Algorithm for Fuzzy Inference Neural Networks*”, *Proceedings of the 2005 International Conference on Parallel and Distributed Processing Techniques and Applications*, Las Vegas, NV, pp. 1113-1122.
- **R. Cruz-Cano**, E. Martin del Campo, P. Nava, R. Cabeza, “*Fuzzy rule Extraction and optimization*

for rat sleep-stage classification”, Proceedings of the 2005 International Conference on Machine Learning; Models, Technologies and Applications, Las Vegas, NV, pp. 75-79.

Other Published Works

- **R. Cruz-Cano**, E. Mead “*Estimates of excess deaths in Puerto Rico: Why Demography Matters - Reply*”, American Journal of Public Health, November 2019, Vol 109, No. 11, doi:10.2105/AJPH.2019.305334
- M.-L.T. Lee and **R. Cruz-Cano**, “*Technical Report 3: Physicians Counts and Categorization and Characteristics of Physicians in the State of Maryland and Prince George's County*”, in D.V. Kleinman (ed.) "Report of the Public Health Impact Study of Prince George's County", July 2012.

SOFTWARE PACKAGE

- **FRCC**: This package implements the functions associated with Fast Regularized Canonical Correlation Analysis. Accepted in the official R Language Repository (CRAN): <http://cran.r-project.org/web/packages/FRCC/>

OTHER TEACHING EXPERIENCE

- **R. Cruz-Cano**, Intensive Course in Mathematical Statistics for the NSF-funded Research for Undergraduates Summer Institute of Statistics at The University of Nevada, Reno (*RUSIS@UNR*), Summer 2014, Summer 2015 and Summer 2016.
- **R. Cruz-Cano** and M.Y. Leung, *Tutorial: “Machine Learning Approaches to Viral Replication Origin Prediction”* presented in the 11th INFORMS Computing Society (ICS) Conference, January 11, 2009 in Charleston, South Carolina.

SELECTED CONFERENCE POSTERS AND PRESENTATIONS

- R. Ghosh, M. Haque, P.C. Turner, **R. Cruz-Cano**, C. Dallal, “*Urinary Phthalates and Metabolic Syndrome in U.S Adults (NHANES 2005-2014): Examining Potential Differences by Sex and Race*”, American College of Epidemiology, September 2019, Pasadena, CA.
- B. Schwartz, A. Bleinberg, A. Lleshi, **R. Cruz-Cano**, “*Intravenous Haldol For The Treatment Of Intractable Vomiting, Cyclical Vomiting, And Gastroparesis*”, American Academy of Emergency Medicine, March 2019, Las Vegas, NV.
- M. Marcia, **R. Cruz-Cano**, C. Liu, “*The Zip Code Ranking: Project An analysis of health factors and health outcomes by zip code in Montgomery County, Maryland*”, report for the Department of Health and Human Services of Montgomery County MD, October 2018.
- R. Murray, **R. Cruz-Cano**, D. Nasko, S. Wilson, A. Sapkota, “*Association between Private Drinking Water Wells and the Incidence of Campylobacteriosis in Maryland: An Ecological Analysis Using Data from the Foodborne Diseases Active Surveillance Network (FoodNet)*”, ISES-ISEE 2018 Meeting, August 2018, Ottawa, Canada
- N. Jalali, **R. Cruz-Cano**, “*Does Insurance Status Influence Nonmedical Prescription Painkiller, Sedative, and Tranquilizer Use in Newly Initiated and Continuous Users?*”, 2018 Public Health

Research @ Maryland, College Park, MD.

- M. Rangel-Gomez, **R. Cruz-Cano**, A. Kidanu, S. Fix, E. Bernat, P.I. Clark, “*Electrophysiological Responses to Varying Levels of Nicotine in Cigarettes*”, 2018 Society for Research on Nicotine and Tobacco 24th Annual Meeting, Baltimore, MD.
- A. Groom, **R. Cruz-Cano**, E.L. Mead, J.L. Hart, K.L. Walker, A.L. Giachello, C. Oncken, R.M. Robertson, “*Tobacco Point-of-Sale Marketing by Race and Ethnicity*”, 2018 Society for Research on Nicotine and Tobacco 24th Annual Meeting, Baltimore, MD.
- E.L. Mead, C. Oncken, **R. Cruz-Cano**, A. Groom, J.L. Hart, K. L. Walker, A.L. Giachello, R.M. Robertson, “*Warning Label Reactions and Associations with Quit Intentions among Women of Reproductive Age and Pregnant Women*”, 2018 Society for Research on Nicotine and Tobacco 24th Annual Meeting, Baltimore, MD.
- M. Rangel-Gomez, **R. Cruz-Cano**, P. Clark, E. Bernat, “*Emerging EEG/ERP methods: new potential for tobacco science*”, 2017 Cognitive Neuroscience Society Annual Meeting, March 2017 San Francisco, CA
- T. Street, S. Koblinsky, **R. Cruz-Cano**, and S. Wilcox, “*School-age children's adjustment to military deployments: Influences of deployment length and parents' mental health*”, 2016 American Public Health Association Annual Meeting-International Health, Denver, CO, 2016
- M. Reid, **R. Cruz-Cano**, M. Pop, and A. Sapkota,, “*Lower odds of moderate-to-severe diarrhea among children co-infected with Cryptosporidium spp. and Shigella spp. or other pathogens compared to children with single infections*”, IDWeek 2016, October, 2016, New Orleans, LA
- G.A. Buzzell, P.J. Beatty, A.W. Kidanu, **R. Cruz-Cano**, L.E. Nkongho, H. Kim, C.G. McDonald and P. I. Clark, “*The Neurocognitive Effects of Throat Grab Sensation Associated with Menthol Cigarettes*”, 2016 Society for Research on Nicotine and Tobacco 22nd Annual Meeting, February 2015, Chicago, IL
- B. Das, **R. Cruz-Cano**, and P. I. Clark, “*A Comparison of Puff Behaviors during Cigarette and Little Cigar Use*”, 2016 Society for Research on Nicotine and Tobacco 22nd Annual Meeting, February 2016, Chicago, IL
- S. Chattopadhyay, P. Kulkarni, K. Babik, M. Reid, L. Hittle, J.N. Paulson, **R. Cruz-Cano**, M. Pop, E. F. Mongodin and A.R. Sapkota, “*Differences in the bacterial microbiota associated with mentholated versus non-mentholated cigarette tobacco*”, 2015 Society for Research on Nicotine and Tobacco 21st Annual Meeting, February 2015, Philadelphia, PA
- B. Das, **R. Cruz-Cano**, H. Kim, M. Brinkman, S. Gordon and P. Clark, “*Acute subjective Responses to Smokeless Tobacco Products*”, 2015 Society for Research on Nicotine and Tobacco 21st Annual Meeting, February 2015, Philadelphia, PA
- J. Pantelic, J. Yan, M.L. Grantham, F. Liu, **R. Cruz-Cano**, S.H. Ehrman and D.K. Milton, “*Characterization of Respiratory Droplets from Community Acquired Influenza Infection in Humans*”, 2nd Annual Public Health Research@Maryland, April 8, 2014, College Park, MD
- M. Duggal, S.A. Koblinsky and **R. Cruz-Cano**, “*Domestic violence during pregnancy, maternal education, maternal autonomy, and rural-urban status as predictors of Indian women's maternal health care utilization and breastfeeding*”, 141st American Public Health Association Annual Meeting-International Health, presented on November 2013, Boston, MA

- **R. Cruz-Cano**, “*Fast Regularized Canonical Correlation Analysis*”, Rice University Summer Institute of Statistics, Houston, TX, Summer 2012.
- **R. Cruz-Cano** and M.Y. Leung, “*Effect of Data Set Size on Feature Selection using Support Vector Machines*”, 2010 INFORMS Annual Meeting-Applied Probability Cluster, Austin, TX, Sponsored Talk, November 2010.
- C. Aguilar, A. Betancourt, **R. Cruz-Cano** and M.Y. Leung, “*Computational Tool for Estimating the Association of RNA Secondary Structures with Inversion Concentration*”, 2009 Annual Biomedical Research Conference for Minority Students, Phoenix, AZ, November, 2009.
- **R. Cruz-Cano**, “*Teaching with Robotics*”, Career and Technical Education Mini Conference hosted by the Texas Region 8 Education Service Center and Upper East Texas Tech Prep Consortium, June 2009.
- C. Aguilar, A. Betancourt, **Raul Cruz-Cano** and M.Y. Leung, “*Computational Tool for Estimating Association of RNA Secondary Structures with Inversion Concentration*”, New Mexico Bioinformatics Symposium, Santa Fe, NM, presented on March 19, 2009.
- **R. Cruz-Cano**, “*Feature Selection for the Prediction of Replication Origins of Herpesviruses*”, Presentation for the seminar of the Department of Statistics of Rice University, Houston, Texas, November 2008.
- V. Govindaswamy and **R. Cruz-Cano**, Faculty mentors for the 2nd place poster in the Texas A&M University System 6th Annual Pathways Student Research Symposium. Poster: “*An Application Recovery Tool for Windows*”, November 2008.
- C. Aguilar, **Raul Cruz-Cano** and M.Y. Leung, “*Distribution of Inversions in RNA Sequences with Pseudoknots*”, New Mexico Bioinformatics Symposium, Santa Fe, NM, March 2008.
- **R. Cruz-Cano**, M.Y. Leung and D. Chandran, “*Neural Networks for the Prediction of Replication Origins in Herpesviruses*”, Presentation database for the 2006 INFORMS Optimization Society Conference in Optimization and Health Care, San Antonio, Texas.

SERVICE TO THE PROFESSION

Reviewer for the:

- Judge for the University Maryland’s 2021 Public Health Research @ Maryland
- Journal: PLOS ONE, 2020-present
- Journal: Disaster Medicine and Public Health Preparedness, 2020-present
- Proceedings of the National Academy of Sciences of the United States of America (PNAS), 2020-Present
- University of Maryland COVID-19 Seed Grant Program, 2020
- Journal: AIMS Public Health, 2020-Present
- Book Proposals: John Wiley & Sons Publishing, 2020- Present
- Journal: Injury Epidemiology, 2020-Present
- Journal: American Journal of Public Health, 2017-Present
- Journal: Preventive Medicine, 2017-Present
- Journal: Expert Systems With Applications, 2016-present

- Journal: Briefings in Bioinformatics, 2016-present
- Journal of Bioinformatics and Computational Biology, 2016-present
- Journal: Bioinformatics and Biology Insights, 2015-present
- Journal: Computational Statistics and Data Analysis, 2014-present
- Journal: Applied Mathematical Modelling, 2012-present
- Journal: IEEE Transactions on Neural Networks and Learning Systems, 2012-present
- Journal: Bioinformatics, 2011-present
- INFORMS Journal on Computing, 2009-present
- IEEE Computational Intelligence Society Conference, 2013
- School of Public Health's Professional Track Appointments, Evaluation and Promotion Task Force, 2020-2021
- IEEE Symposium on Computational Intelligence Bioinformatics and Computational Biology, 2010 – 2012
- IEEE International Joint Conference on Neural Networks, 2012-2013
- IEEE Symposium on Computational Intelligence and Data Mining, 2011
- IEEE Workshop on Hybrid Intelligent Models and Applications, 2011
- Congreso Internacional de Ingeniería Electrónica “*ELECTRO*” Instituto Tecnológico de Chihuahua, Chihuahua, México, 2008-2009
- Judge for the Texas A&M University System Pathways 5th-6th Annual Student Research Symposium, 2008-2009

Elected Positions

- Vice-Chair of the IEEE Engineering in Medicine and Biology (Northern Virginia and Washington D.C. Section) 2012
- Secretary of the IEEE Engineering in Medicine and Biology (Northern Virginia and Washington D.C. Section) 2011
- IEEE Shreveport Section Vice-Chair (Northern Louisiana, East Texas, Southwest Arkansas) 2007-2009. Our efforts were the topic of the paper “*History of the IEEE Shreveport Section, Its Struggles and Recent Revival*” by V. Govindaswamy and G. Balasekaran published in the 2009 IEEE Conference on the History of Technical Societies, pp. 1-3.

Conference Organization

- Organizer, *Big Data Conference with Application in Public Health*, Feb 28th, 2020, College Park, MD
- Webmaster of the *2014 Cancer Technology & Epidemiology Symposium*, January 2014, College Park, MD
- Webmaster and member of the Local Arrangements Committee of the *Risk Assessment and Evaluation of Predictions Conference Risk Analysis 2011* (October 2011), Silver Spring, MD. Efforts acknowledged in the book *Risk Assessment and Evaluation of Predictions*, Editor: M.L.T Lee, et al., Lecture Notes in Statistics, Vol. 210, Springer; 2013.
- IEEE DC/Northern Virginia Section-Engineering in Medicine and Biology Chapter: Technical Talk

“Noninvasive decoding of human motor intent from scalp EEG: Applications to brain-machine interface systems for the control of prosthetic limbs and powered exoskeletons” by Dr. J.L. Contreras-Vidal (now Professor in the University of Houston), School of Public Health Building, College Park, MD, June 4th, 2011.

- Organizer of the conference *“Successfully Training Educators As Mathematicians”* (STEAM) V, Texarkana College, Texarkana, Texas, October 2009 (Publicity Committee).

SERVICE TO THE UNIVERSITY

University of Maryland: Committees

- Search Committee for the position of Clinical Assistant Professor of Biostatistics, School of Public Health, University of Maryland, 2021.
- School of Public Health’s Professional Track Appointments, Evaluation and Promotion Task Force-Evaluations Committee, 2020-2021
- School of Public Health’s Professional Track Appointments, Evaluation and Promotion Task Force-Anti-racism Committee, 2020-2021
- Point Person to create the Academic Certificate *“Health Data Analysis”*. *Duties:* Write certificate proposal and move it through all levels of the University process.
- Professional Track Faculty Promotion Committee Member (School of Public Health Level), Spring 2020 and Fall 2020.
- Manager and Point Person to create the SAS Joint Certificate *“Health Data Analysis”* which started on the Fall of 2019. *Duties:* Coordinate all parties involved in the approval process (SAS Institute, UMD, School of Public Health & Department of Epidemiology and Biostatistics), promote certificate among students, award certificate to students who complete requirements and keep accurate record of students who have complete it.
- University of Maryland’s Senate Student Conduct Committee, August 2019-August 2021.
- Elected to the Executive Committee of the Department of Epidemiology and Biostatistics as Representative of the Professional Track Faculty, Fall 2015-2019.
- Representative of the Department of Epidemiology and Biostatistics for the Selection Committee of the School of Public Health Awards.
- Search Committee for the position of Associate/Assistant Professor of Epidemiology, School of Public Health, University of Maryland, 2011-2012.
- Search Committee for the position of Assistant Professor of Biostatistics, School of Public Health, University of Maryland, 2011-2012.
- Representative of the Biostatistics Program in the committee in charge of recommending which graduate student of the Department of Epidemiology and Biostatistics will be nominated for the School of Public Health 2011 Dean’s Award
- Admissions Committee, Department of Epidemiology and Biostatistics, School of Public Health, University of Maryland, 2010-2012.

University of Maryland: Thesis, Dissertations and Capstone Projects

- Committee Member for the Ph.D. Comprehensive Exam of the student Suhana Chattopadhyay, Summer 2021, Maryland Institute of Applied Environmental Health (Chair: Dr. Amy Sapkota)

- Chair for Capstone Project “*Obesity–Psychological Distress Relationship among Asian Americans: Findings from the 2017 California Health Interview Survey*” of the student Carissa Kwan, Spring 2021, Department of Epidemiology and Biostatistics.
- Committee Member for Capstone Project “*Cross-Sectional Examination of Youth Mental Illness and Risky Sexual Behavior: A Comparative Study by Sexual Orientation*” of the student Bridgette Heine, Spring 2021, Department of Epidemiology and Biostatistics (Chair: Dr. M.L.T. Lee)
- Committee Member for Capstone Project “*Socioeconomic Disparities in Mammography Screening among US Women from 2008 to 2016*” of the student Xuyuan Zhang, Spring 2021, Department of Epidemiology and Biostatistics (Chair: Dr. Xin He)
- Committee Member for Capstone Project “*Nulliparous Cesarean Births in the United States (2016-2018): 3-year analysis of Maternal Characteristics and Live Infant Health Outcomes*” of the student Anokhi Cifuentes, Spring 2021, Department of Epidemiology and Biostatistics (Chair: Dr. M.L.T. Lee)
- Committee Member for Capstone Project “*Association Between Food Insufficiency and Depressive Symptoms in Adult Female Caregivers During a Pandemic: A Secondary Analysis of the Household Pulse Survey*” of the student Jay Etherton, Fall 2020, Department of Epidemiology and Biostatistics (Chair: Dr. Olivia Carter-Pokras)
- Committee Member for Capstone Project “*The Association Between Physical Activity and E-Cigarette Use in Youths and Young Adults Significance of Project5*” of the student Aamir Akbarali, Fall 2020, Department of Epidemiology and Biostatistics (Chair: Dr. M.L.T. Lee)
- Committee Member for Capstone Project “*Association between patterns of physical activity and all-cause mortality in a nationally-representative sample: results from the 2003-2006 NHANES as of December 31, 2015*” of the student Andrew Back, Fall 2020, Department of Epidemiology and Biostatistics (Chair: Dr. M.L.T. Lee)
- Committee Member for the dissertation “*The Influence of Waterpipe Lounge Menu Labeling on Intention to Quit Smoking and Perceived Harm, Risk and Addiction among Young Adult Waterpipe Tobacco Smokers in the United States*” of the student Azieb W. Kidanu, Spring 2020, Department of Behavioral and Community Health (Chair: Dr. Robert H. Feldman)
- Committee Member for Capstone Project “*Variables Associated with Pathogen Concentrations in Different Water Types in the Mid-Atlantic Region of the U.S.*” of the student Megan Gerdes, Spring 2020, Department of Epidemiology and Biostatistics (Chair: Dr. Tianzhou Ma)
- Committee Member for Thesis “*Biomarker categorization in genomics meta-analysis by concordance and biological significance: a lesson from Pan-cancer analysis*” of the student Zhenyao Ye, Spring 2020, Department of Epidemiology and Biostatistics (Chair: Dr. Tianzhou Ma)
- Committee Member for Capstone Project “*Identifying Predictors of Delayed or Absent Diagnosis for Females with Autism*” of the student Hua Zhou, Spring 2020, Department of Epidemiology and Biostatistics (Chair: Dr. Xin He)
- Committee Member for Capstone Project “*Measles Vaccination Rates and Predictors across the U.S. Among Children and Teens*” of the student David Santos, Spring 2020, Department of Epidemiology and Biostatistics (Chair: Dr. Xin He)
- Committee Member for Capstone Project “*Protective Effects of Breastfeeding on Development of Autism Spectrum Disorder (ASD) and Attention Deficit Disorder (ADD) /Attention–Deficit Hyperactivity Disorder (ADHD)*” of the student Li-Yen Rebecca Hu, Spring 2020, Department of Epidemiology and Biostatistics (Chair: Dr. Xin He)

- Committee Member for Capstone Project “*Cognitive stability of sickle cell disease patients in an outpatient setting*” of the student Elizabeth Brown, Fall 2019, Department of Epidemiology and Biostatistics (Chair: Dr. Xin He)
- Committee Member for Capstone Project “*Sociodemographic patterns of the Opioid Epidemic*” of the student Nataly Johanson, Fall 2019, Department of Epidemiology and Biostatistics (Chair: Dr. Natalie Slopen)
- Committee Member for Capstone Project “*Assessing the Impact of ehealth Usage on Seasonal Influenza Vaccine Uptake in Adults: NHIS 2016*” of the student Nicole Haggerty, Spring 2019, Department of Epidemiology and Biostatistics (Chair: Dr. Olivia Carter-Pokras)
- Committee Member for Capstone Project “*Racial/Ethnic Disparities in Timing of Prenatal Care Initiation and Preterm Birth in the U.S.*” of the student Taleeah Wright, Spring 2019, Department of Epidemiology and Biostatistics (Chair: Dr. Natalie Slopen)
- Committee Member for Capstone Project “*The Employment and Potential Outcomes of Working through Cancer (EMPOWER) Project: The effect of psychological distress on work interference*” of the student Fiyinfolu Adetunji, Fall 2018, Department of Epidemiology and Biostatistics (Chair: Dr. Natalie Slopen)
- Committee Member for Ph.D. Dissertation “*Influence of Military and Family Life Stressors on the Readiness of Male and Female Service Members*” of the student Towanda Street, Spring 2018, Department of Family Science (Chair: Dr. Amy Lewin)
- Committee Member for Capstone Project “*Evaluating the Effect of Dietary Vitamin and Mineral Intake on Knee Osteoarthritis Prevention*” of the student Weibo Chen, Spring 2018 (Chair: Dr. Xin He)
- Committee Member for Capstone Project “*Factors Associated with Overweight and Obesity in Veteran Students at the University of Maryland*” of the student Susan Buckenmaier, Spring 2018 (Chair: Dr. Cher Dallal)
- Committee Member for Capstone Project “*Does hookah smoking increase the risk of cigarette smoking?*” of the student Sara Safi, Spring 2018 (Chair: Dr. Olivia Carter-Pokras)
- Committee Member for Capstone Project “*The Association of Client Violence and Condom Use in Female Sex Workers in China*” of the student Roshitha Paul, Spring 2018 (Chair: Dr. Hongjie Liu)
- Committee Member for Capstone Project “*Impacts of Collectivist Culture on Occupational Stigma and HIV Protective Measures Among Female Sex Workers in China*” of the student Ami Fukunaga, Spring 2018 (Chair: Dr. Hongjie Liu)
- Committee Member for Capstone Project “*The Relationship between Sleep and BMI in the National Survey of Children’s Health*” of the student Qianyi (June) Zhang , Fall 2017 (Chair: Dr. Natalie Slopen)
- Committee Member for Capstone Project “*Delivery and Assessment of Employee Engagement as Part of the Voluntary Protection Program Certification*” of the student Bernadette Kilcer, Fall 2017 (Chair: Dr. Lesliam Quiros-Alcala)
- Committee Member for MPH Thesis “*The Impact of Socioeconomic Status on Serious Mental Illness and Cardiovascular Disease among African Americans*” of the student Thomas Wilkerson, Fall 2017 (Chair: Dr. Typhanye V. Dyer)
- Committee Member for MPH Thesis “*Associations between receiving Supplemental Nutrition Assistance Program (SNAP) benefits and anxiety problems among a nationally representative sample of children and adolescents*” of the student Joshua Levine, Fall 2015 (Chair: Dr. Hongjie Liu)

- Committee Member for MPH Thesis “*Impact of Cryptosporidium spp. interaction with co-occurring microorganisms on moderate-to-severe diarrhea in the developing world*” of the student Molly Reid, Summer 2015 (Chair: Dr. Amy Sapkota)
- Committee Member for MPH Capstone Project “*Employing Artificial Neural Network Technique to Predict NICU Utilization using Consortium on Safe Labor Data*” of the student Chu Wu, Fall 2013 (Chair: Dr. Xin He)

Texas A&M University-Texarkana

- Director of the Math Help Center at Texas A&M University-Texarkana 2009.
- Interim Advisor of the Department of Mathematics of Texas A&M University-Texarkana, 2009.
- IEEE @ A&M-Texarkana Student Chapter Advisor and Co-Founder 2007-2009.
- Faculty Advisor for the Math Club at Texas A&M-Texarkana 2009.
- Professor in charge of the Texas A&M University-Texarkana 4th Annual Robotics Camp, August 2008.
- Co-Director of the Free Programming, Math and Physics Clinic, a program which each Saturday helps the students, through self paced exercises, to develop the skills necessary to succeed in several classes required by the College (2007-2008).
- Serve in numerous committees in the University, such as: Student Leadership, International Recruitment, Undergraduate Curriculum and several Faculty Search Committees 2007-2009.
- Chair for the Assistant Professor of Mathematics Search Committee 2009.

WORKSHOPS

- 2018 Society for Research on Nicotine & Tobacco Annual Meeting: *Sample size calculations for observational and experimental studies in tobacco control.*
- Joint Statistical Meetings 2017: *Construction of Weights in Surveys*, Baltimore, MD
- Joint Statistical Meetings 2017: *Analyzing Multilevel Models with the GLIMMIX Procedure*, Baltimore, MD
- Joint Statistical Meetings 2017: *Causal Treatment Effect Analysis Using SAS/STAT Software*, Baltimore, MD
- 2015 NIH Regional Seminar – Baltimore, MD
- “*Enterprise Management Learning System: Migrating from Blackboard to Canvas*” Fall 2012, University of Maryland, College Park, MD
- “*IRB Net Training*”, 2012-present, University of Maryland, College Park, MD
- “*Geoprocessing with Python*”, Summer 2011, University of Maryland, College Park, MD
- “*Spatial Analysis using ArcGIS*”, Spring 2011, University of Maryland, College Park, MD
- Texas Girls Collaborative Project Kick-off Conference, Univ. of Texas, Austin, TX, April 2008.
- TGI.- “*Grants 101: Professional Grant Proposal Writing*”, University of Arkansas at Little Rock, Little Rock, AR. December 2007 and “*The Grantmanship Center workshop*”, Center for Border Health Research, El Paso, TX. January 2006.
- TeraGrid, National Computational Science Institute and SC07 Education Program: *Parallel and Cluster Computing with an Emphasis on Biology and Chemistry*, The University of Texas at El Paso,

May 2007.

- Minority Access to Research Careers: Developing Bioinformatics Programs, Pittsburgh Super Computing Center, Carnegie Mellon University Pittsburgh, PA. July 11-22, 2005.
 - 2nd Workshop on Computational Mathematics, CIMAT, Guanajuato, Mexico 1999
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SYSTEM ADMINISTRATOR AND PROGRAMMING SKILLS

As manager of the University of Maryland's Biostatistics and Risk Assessment Center (BRAC) Server my responsibilities included:

- The constant upgrading and maintenance of the Red Hat Enterprise Linux 5 operating system.
 - The installation and maintenance of the software required for the BRAC research projects. This software includes programming languages (R, S+, and STATA) and services (SSH: secure access and running programs in text mode, VNC: access in graphic mode, SFTP: secure access to files and HTTP: hosting user's websites).
 - Creation of user's accounts and assignation of appropriate privileges.
 - The constant upgrading and maintenance of BRAC's website using MS Expression Web 4: <http://brac.umd.edu/>
 - Creating the website for the conference Risk Assessment and Evaluation of Predictions Conference Risk Analysis 2011, October 2011, Silver Spring, MD and the 2014 Cancer Technology & Epidemiology Symposium, January 2014, College Park, MD. The registration for the conference was performed online; it combined of all the elements of the LAMP (Linux, Apache, MySQL and PHP) solution stack.
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OTHER SPECIAL SKILLS

- Fluent in Spanish
- Responsible for the assessment, i.e. design of surveys and statistical analysis of the data collected, of the project "Introduction to Engineering" funded by the Texas Higher Education Coordinating Board.
- Voluntary Mentor for Women Engineering Students interested in Soft Computing and for Undergraduate Students interested in Parallel Programming, University of Texas at El Paso.
- Graduate Courses in: Parallel Programming, Fuzzy Logic, Computer Architecture, Digital Systems Design, Artificial Intelligence, Digital Communications, Digital Signal Processing, Statistics, Probability, Real Analysis, Linear Algebra, Numerical Methods, Data Compression.
- Experience as Network Technician at the University of Chihuahua. Duties: Survey the status of the University of Chihuahua's internal network. Collaborate in the activities necessary for the expansion and maintenance of the hardware and software the University's network. (1999)
- Performed scientific research using the following programming languages: SAS, Stata, MATLAB, R, Minitab, MPI, C/C++, Visual Basic and Mathematica.
- Tex-Ark Latino Organization, Board of Directors. This is an organization dedicated to promote the Hispanic culture in the area of northeast Texas and southwest Arkansas, 2007-2009.