Guarionex J. Salivia

Contact Information

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Education

The University of Iowa, Iowa City, Iowa USA

Ph.D., Computer Science, 2012

- Dissertation Title: ASSISTIVE STRATEGIES FOR PEOPLE WITH FINE MOTOR SKILLS IMPAIRMENTS BASED ON AN ANALYSIS OF SUB-MOVEMENTS

The University of Iowa, Iowa City, Iowa USA

M.S., Mathematics, 2007

The University of Puerto Rico at Rio Piedras, San Juan, Puerto Rico USA

B.S., Mathematics, 2000

Academic Work Experience

Gustavus Adolphus College, Saint Peter, MN USA

Associate Professor, Math, Computer Science and Stats Department **Sep, 2023 - Present**
Visiting Instructor, Math, Computer Science and Stats Department **Jan, 2011 - May, 2012**

Minnesota State University, Mankato, MN USA

Associate Professor, Computer Information Science Department **Jul 2017 - Aug 2023**
Assistant Professor, Computer Information Science Department **Aug 2012 - Jun 2017**
Assistant Director for Mathematics/Science **Apr, 2011 - Aug, 2012**

The University of Iowa, Iowa City, Iowa USA

Mathematics Tutor **Aug 2001 - Jul 2005**
Teaching Assistant **Aug, 2003 - May, 2010**

- Department of Computer Science, Aug 2005 - May 2010
- Department of French and Italian, Aug 2007- May 2009
- Department of Mathematics, Aug 2003 - May 2004

Kirkwood Community College, Iowa City, Iowa USA

Adjunct Instructor **Oct, 2005 - Dec, 2006**

Notre Dame High School, Caguas, Puerto Rico USA

High School Teacher **Jun 1998 - Jun 2000**

The University of Puerto Rico, San Juan, Puerto Rico USA

Teaching Assistant **Aug, 1997 - May, 1999**

Courses Taught

Introduction to Programming (Python), Data Structures and Algorithms, Human Computer Interaction, Computational Theory, Game Development, Web Application Design and Development, Operating Systems, Introduction to Information Systems, Introduction to Computing and Applications, Mobile Device Application Programming, Computer Ethics and Society, Fun in Game Design

Research Interests

Human-Computer Interaction, Human Factors, Assistive Technologies, Game Design and Development

PUBLICATIONS

David Allen, José La Luz, Guarionex Salivia and Jonathan Hardwick, *Non-detectable patterns hidden within sequences of bits*, Open Journal of Discrete Applied Mathematics ISSN 2617-9687 Volume 7 (2024) Issue 3 pp. 36-58

Rebecca Bates, Jonathan Hardwick, Guarionex Salivia and Lin Chase (2022) *A Project-Based Curriculum for Computer Science Situated to Serve Underrepresented Populations.* In Proceedings of the 53rd ACM Technical Symposium on Computer Science Education V. 1 (SIGCSE 2022), March 3–5, 2022, Providence, RI, USA. ACM, New York, NY, USA https://doi.org/10.1145/3478431.3499312

Lin Chase, Rebecca Bates, Jonathan Hardwick and Guarionex Salivia (2022) "How our project-based undergraduate program in Computer Science is creating a generation of startup-literate BIPOC graduates", in the KEEN National Conference 2022, https://engineeringunleashed.com/card/2932.

Guarionex Salivia, Flint D. Million and Megan E. Bening (2020) *Exploring User Interface Improvements for Software Developers who are Blind* Journal of Science Education for Students with Disabilities: Vol. 23 : Iss. 1, Article 15. DOI: 10.14448/jsesd.12.0011 Available at: https: //scholarworks.rit.edu/jsesd/vol23/iss1/15

Guarionex Salivia *Implementación de criptografía simplicial*, Seminario Interuniversitario de Investigación en Ciencias Matemáticas SIDIM, March 2019, Humacao, Puerto Rico.

David Allen, José La Luz, Guarionex Salivia and Jonathan Hardwick, (2017) *A Simplicial Pseudo-Random Number Generator*, Journal of Information Assurance and Security ISSN 1554-1010 Volume 12 pp. 154-161

Salivia, G., Azarbod, C., Royle, C., Goel, A., Million, F., Bening, M. (2017) *Family Nursing Education E3 :Efficiency, Effectiveness, and Experience* Proceedings of the IFNA Conference, June 2017, Pamplona, Spain.

Krumwiede, N., Klammer Kruse, S. L., Salivia, G., Azarbod, C., Royle, C., Goel, A., Million, F., Bening, M. (2017) *Enhancing the Experience for Nurse Educators and Nursing Students Through Interprofessional Collaboration and Innovative Technologies.* Education Symposium at the Sigma Theta Tau International Honor Society of Nursing 44th Biennial Convention, November 2017, Indianapolis, IN.

Klammer Kruse, S. L., Azarbod, C., Salivia, G., Krumwiede, N., Kuechle, L., and Blashack, M. (2016) *Applied learning through on-campus interdisciplinary internships.* Proceedings of the EDSIG Conference, November 2016, n.4152, Las Vegas, Nevada.

Zainab Hamza, Guarionex Salivia, *Study of Touch Gestures Performance in Touch Devices by Young Children*, International Journal on Recent and Innovation Trends in Computing and Communication (IJRITCC), ISSN: 2321-8169, March 2015, PP: 1395 - 1400

Guarionex Salivia, Juan Pablo Hourcade *PointAssist: Assisting Individuals with Motor Impairments* In Proceedings of the 2013 annual conference extended abstracts on Human factors in computing systems, CHI '13, pages 1213-1222, New York, NY, USA, 2013. ACM.

Guarionex Salivia, Juan Pablo Hourcade *Identification of Pointing Difficulties of two Individuals with Parkinson's Disease via a Sub-movement Analysis* In Proceedings of the 2011 annual conference extended abstracts on Human factors in computing systems, CHI EA '11, pages 137-140, New York, NY, USA, 2011. ACM.

Guarionex Salivia, Juan Pablo Hourcade *PointAssist and Parkinson's Disease* (Dynamic Accessibility: Detecting and Accommodating Differences in Ability and Situation Workshop as part of the

2011 annual conference extended abstracts on Human factors in computing systems, CHI EA '11 Vancouver, Canada)
http://www.is.umbc.edu/DynamicAccessibilityWorkshop/DynamicAccessibilityWorkshop-participants.html

E. Huerta-Sánchez, K. R. Ríos-Soto, G. Jordán-Salivia and J. Zhang. 2002. *The Effects of Mass Transportation During a Deliberate Release of Smallpox.* Biometrics Unit Technical Report BU-1618-M. Cornell University

Rodríguez-Herrera A., G. Jordán-Salivia and C. Castillo-Garsow. 1997. *Mathematical Models for the Dynamics of Tobacco Use, Recovery and Relapse.* Biometrics Unit Technical Report BU-1505-M. Cornell University

Rodríguez-Herrera A. and G. Jordán-Salivia. 1997. *Macrophage-Activating and Tissue-Damaging Immune Responses to M. tuberculosis.* Biometrics Unit Technical Report BU-1419-M. Cornell University (presented at SIAM 50th Anniversary Meeting, Philadelphia, PA, 2002.)

M. Aldrete, C. Castillo-Garsow, G. Jordán-Salivia, C. Lara-Moreno, G. Ramirez, and M. Yichoy. 1996. *A Mathematical Model of the Dynamics of Rickettsia rickettsii* in Tick-Host Interactions. Biometrics Unit Technical Report BU-1369-M. Cornell University

Synergistic Activities

University service: (i) Graduate Coordinator for CIS program at Minnesota State University, Mankato (MNSU) (2019-2022) (ii) Member of Technology Round-table Committee - MNSU University Wide (2014- 2017) (iii) Member of Admissions Appeal Committee - MNSU University Wide (2012-2013) (iv) Served in 1-2 search committees per year - MNSU University Wide

Mentoring: (i) Graduate Thesis Chair for Zainab Hamza and Benjamin Von Korff (ii) Graduate App committe member for Shawn Nevalainen, Natalia Biernikova, Emiel Smeenk and David Chapman (iii) Mentored Flint Million to present research titled "Designing haptic feedback and auditory methods to access maps for the blind" at the 5th Annual Minnesota Conference of Undergraduate Scholarly and Creative Activity (iv) Advisor to the SHPE (Society for Hispanic Professional Engineers) chapter at MNSU (v) Advisor to the Gaming and Coding Community, an ACM chapter at MNSU (iv) Mentored Molly Stein (summer 2023) under the FYRE grant at Gustavus Adolphus College to develop a mobile application to help individuals who are blind identify stains in fabrics using AI.

Program and Curriculum Development: (i) New program in Computer Science at MNSU (began Fall 2019) (ii) New course in Game Development at MNSU

Research Reviewer: (i) Reviewer for Work-in-progress category for SIGCHI annual conference (ii) Reviewer for the International Journal of Child-Computer Interaction (an Elsevier publication) (iii) Reviewer for Ergonomics Journal (a Taylor & Francis publication)

Awards and Memberships: (i) CSET Advising award MNSU (2016) (ii) Leadership Alliance Doctoral Scholar Award (2013) (iii) ACM Member (iv) Top Innovative technology award from EDUCAUSE Learning Initiative (for video submitted on MavClass application on 2016) (v) Minnesota State Academic and Student Affairs award for Excellence in Curriculum Programming (awarded to the CIS department in 2015-2016)

Miscellaneous Collaborations: (i) Created the User Experience Lab in collaboration with English, ITS and the Library at MNSU. (iii) Developed the Maverick Course Learning Assistant for Student Success (MavCLASS) mobile app in collaboration with ITS at MNSU. (iv) Developed the mobile app Calculator version of the American Thyroid Association in collaboration with Dr. David Sharlin