Marvin Andujar, Ph.D.

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Research Gate | Google Scholar | DBLP | LinkedIn | Twitter | OrcID: 000-0001-6233-9593

EDUCATION

Ph.D., Human-Centered Computing, University of Florida 08/2017
Dissertation: Aiding users to self-regulate their attention through Quantified-Self feedback while performing a learning task from a Brain-Computer Interface
Advisor: Dr. Juan E. Gilbert | ACM Fellow, IEEE Fellow

B.S., Computer Science & **B.A.**, Mathematical Sciences (Dual Major), Kean University 05/2012

WORK EXPERIENCE

Assistant Professor 08/2017 - Present
Dept. of Computer Science and Engineering, **University of South Florida**, Tampa, FL
Research Lab Director 08/2017 - Present
Neuro-Machine Interaction Lab (NMIL), **University of South Florida**, Tampa, FL
Graduate User Experience Technical Intern May-August, 2015
Intel, Hillsborough, OR
NSF Graduate Research Fellow (NSFGRF) Researcher 08/2014 – 08/2017
University of Florida, Gainesville, FL
GEM Fellow Researcher 08/2013 – 07/2014
Clemson University, Clemson, SC
Human Factors Engineer Intern May-August, 2013
Intel Labs, Santa Clara, CA

RESEARCH EXPERTISE & INTERESTS

Research Goals: My goal is to advance knowledge on the design and adaptation of non-invasive neurotechnology for the purpose of improving people's user experience and their daily life. My current work has focused on measuring and enhancing user's attention with BCI.

Research Process: My work follows the steps of design, development, and evaluation. This is based on the user experience design of the applications, development of the application that is usable for users, and conduct user studies to evaluate the efficiency of the developed BCI application objectively and subjectively for a specific need.

Research of Interests: My main area of research interest is an emerging technology that focuses on non-invasive and non-clinical Brain-Computer Interfaces. I pursue this interest in conjunction with Human-Computer Interaction (HCI), Immersive Experiences (such as Virtual Reality, Augmented Reality, and Extended Reality), Human-Centered Computing (HCC), Human-Drone Interaction (HDI), and Educational Technologies.

Research Community: The BCI in CSE community in the USA is very small. There are less than 20 academic faculty in CSE focusing their work on applies non-invasive closed-loop BCI. There are also a few venues that are an appropriate community for this type of work.

PUBLICATIONS – Total: 43

Journals

[J.4] Agarwal, R., **Andujar, M.**, & Canavan, S. (2022). Classification of emotions using EEG activity associated with different areas of the brain. Pattern Recognition Letters. Impact Factor: 4.757.

[J.3] Stegman, P., Crawford, C. S., **Andujar, M.**, Nijholt, A., & Gilbert, J. E. (2020). Brain–Computer Interface Software: A Review and Discussion. IEEE Transactions on Human-Machine Systems. Impact Factor: 3.332.

[J.2] Tezza, D., and **Andujar, M.** (2019). The State-of-the-Art of Human-Drone Interaction: A Survey. IEEE Access, 7 167438-167454. Impact Factor: 4.098.

[J.1] **Andujar, M.**, Crawford, C. S., Nijholt, A., Jackson, F., & Gilbert, J. E. (2015). Artistic brain-computer interfaces: the expression and stimulation of the user's affective state. Brain-Computer Interfaces, 2(2-3), 60–69.

Refereed Conference Full Papers

[C.30] Agarwal, R., & **Andujar, M.** (2022). Neuro-Voting: An Accuracy Evaluation of a P300-Based Brain-Computer Interface for Casting Votes. In International Conference on Human-Computer Interaction (pp. 409-419). Springer, Cham.

[C.29] Tezza, D., & **Andujar, M.** (2022). First-Person View Drones and the FPV Pilot User Experience. In International Conference on Human-Computer Interaction (pp. 404-417). Springer, Cham.

[C.28] Garcia, S., Caprio, D., & **Andujar, M.** (2021, October). A BMI-AR Framework for Hands-Free Instruction. In 2021 IEEE International Conference on Systems, Man, and Cybernetics (SMC) (pp. 721-726). IEEE.

[C.27] Garcia, S., & **Andujar, M.** (2021, July). Neurochat: Artistic Affective State Facial Filters in Online Video Communication. In International Conference on Human-Computer Interaction (pp. 23-32). Springer, Cham.

[C.26] Tezza D., Garcia S., **Andujar M.** (2020) Let's Learn! An Initial Guide on Using Drones to Teach STEM for Children. In: Zaphiris P., Ioannou A. (eds) Learning and Collaboration Technologies. Human and Technology Ecosystems. HCII 2020. Lecture Notes in Computer Science, vol 12206. Springer, Cham.

[C.25] Mirzakhalov J., Babu A., **Andujar M.** (2020) Mudpoint: Evaluating Instructor Perception on a Continuous and Non-specific Feedback System. In: Zaphiris P., Ioannou A. (eds) Learning and Collaboration Technologies. Designing, Developing and Deploying Learning Experiences. HCII 2020. Lecture Notes in Computer Science, vol 12205. Springer, Cham.

[C.24] Pham T., Tezza D., **Andujar M.** (2020) Enhancing Drone Pilots' Engagement Through a Brain-Computer Interface. In: Kurosu M. (eds) Human-Computer Interaction. Multimodal and Natural Interaction. HCII 2020. Lecture Notes in Computer Science, vol 12182. Springer, Cham.

[C.23] Tezza D., Caprio D., Pinto B., Mantilla I., **Andujar M.** (2020) An Analysis of Engagement Levels While Playing Brain-Controlled Games. In: Fang X. (eds) HCI in Games. HCII 2020. Lecture Notes in Computer Science, vol 12211. Springer, Cham.

[C.22] Tezza D., Caprio D., Garcia S., Pinto B., Laesker D., **Andujar M**. (2020) Brain-Controlled Drone Racing Game: A Qualitative Analysis. In: Fang X. (eds) HCI in Games. HCII 2020. Lecture Notes in Computer Science, vol 12211. Springer, Cham.

[C.21] McClinton, W., Garcia, S., & **Andujar, M.** (2019, July). An Immersive Brain Painting: The Effects of Brain Painting in a Virtual Reality Environment. In International Conference on Human-Computer Interaction (pp. 436-445). Springer, Cham.

[C.20] Garcia, S., Laesker, D., Caprio, D., Kauer, R., Nguyen, J., & **Andujar, M.** (2019, July). An Immersive Virtual Reality Experience for Learning Spanish. In International Conference on Human-Computer Interaction (pp. 151-161). Springer, Cham.

[C.19] Tezza, D., Garcia, S., Hossain, T., & **Andujar, M.** (2019, July). Brain eRacing: An Exploratory Study on Virtual Brain-Controlled Drones. In International Conference on Human-Computer Interaction (pp. 150-162). Springer, Cham.

[C.18] Hernandez-Cuevas B., Sawyers E., Bentley L., Crawford C**., Andujar M.** (2019) Neurophysiological Closed-Loop Control for Competitive Multi-brain Robot Interaction. In: Chen J. (eds) Advances in Human Factors in Robots and Unmanned Systems. AHFE 2019. Advances in Intelligent Systems and Computing, vol 962. Springer, Cham.

[C.17] McClinton, W., Caprio, D., Laesker, D., Pinto, B., Garcia, S., and **Andujar, M.** 2019. P300-Based 3D Brain Painting in Virtual Reality. In Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems (CHI EA '19). ACM, New York, NY, USA, Paper LBW1119, 6 pages.

[C.16] **Andujar, M.,** and Caprio, D. 2018. Effectiveness of the Alpha Calibration with a Brain-Computer Interface for College Students. In Proceedings of the 2018 ACM International Joint Conference and 2018 International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers (UbiComp '18). ACM, New York, NY, USA, 960-963.

[C.15] Crawford, C.S., **Andujar, M.**, and Gilbert, J.E. (2017). Neurophysiological Heat Maps for Human-Robot Interaction Evaluation. In Proceedings of 2017 AAAI Fall Symposium Series: Artificial Intelligence for Human-Robot Interaction AAAI Technical Report FS-17-01, November 9-11, 2017, Arlington, VA, USA, pp. 90-93.

[C.14] **Andujar, M.** and Gilbert, J.E. 2017. A user-centered approach towards attention visualization for learning activities. In Proceedings of the 2017 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2017 ACM International Symposium on Wearable Computers (UbiComp '17). ACM, New York, NY, USA, 871-876.

[C.13] Lieblein, R., Hunter, C., Garcia, S., **Andujar, M.**, Crawford, C. S., & Gilbert, J. E. (2017, July). NeuroSnap: Expressing the User's Affective State with Facial Filters. In International Conference on Augmented Cognition (pp. 345-353). Springer, Cham. Acceptance Rate: 28%

[C.12] **Andujar, M.,** Nijholt, A., Gilbert, J. (2017). Mobile Augmented Reality Games in Playable Cities: An Overview of Pokemon Go. In International Conference on Distributed, Ambient and Pervasive Interactions (pp. 575-586). Springer, Cham. Acceptance Rate: 28%

[C.11] Kaur, R., Morreale, P., & **Andujar, M.** (2017, July). SmartPA: An Electronic Solution for Secure Prior Authorization Processing. In International Conference of Design, User Experience, and Usability (pp. 664-676). Springer, Cham. Acceptance Rate: 28%

[C.10] **Andujar, M.,** Nijholt, A., & Gilbert, J.E., (2016). Designing a Humorous Workplace: Improving and Retaining Employee's Happiness. In Proceedings of 7th International Conference on Applied Human Factors and Ergonomics (AHFE 2016) and the Affiliated Conferences, AHFE 2016, pp. 683-694, Orlando, FL, July 27-31, 2016.

[C.9] **Andujar, M.,** Morreale, P, Jimenez, J., Jimenez, L., & Gilbert, J.E., (2016). Evaluation of User's Affective Engagement While Interacting with Educational Technologies: A Pilot Study. In Proceedings of 7th International Conference on Applied Human Factors and Ergonomics (AHFE 2016) and the Affiliated Conferences, AHFE 2016, pp. 97-106, Orlando, FL, July 27-31, 2016.

[C.8] Crawford, C.S., **Andujar, M.**, Jackson, F., Applyrs, I., & Gilbert, J.E. (2016). Using a Visual Programing Language to Interact with Visualizations of Electroencephalogram Signals. In Proceedings of the 2016 American Society for Engineering Education Southeastern Section (ASEE SE), Tuscaloosa, AL, March 13-15, 2016.

[C.7] Crawford, C.S., **Andujar, M.**, Jackson, F., Remy, S., & Gilbert, J.E., (2015) User Experience Evaluation Towards Cooperative Brain-Robot Interaction, In Proceedings 17th International Conference Human-Computer Interaction: Design and Evaluation, HCI International 2015, pp. 184–193, Los Angeles, CA, August 2-7, 2015, M. Kurosu (Ed.): Human-Computer Interaction, Part I, HCII 2015, Springer LNCS 9169.

[C.6] Crawford, C., **Andujar, M.**, Remy, S. & Gilbert, J.E. (2014). Cloud Infrastructure for Mind-Machine Interface. Proceedings of the 2014 International Conference on Artificial Intelligence (ICAI'14). pp. 127-133.

[C.5] **Andujar, M.,** Jimenez, L., Shah, J., & Morreale, P. 2013. Evaluating visual programming environments to teach computing to minority high school students. J. Comput. Sci. Coll. 29, 2 (December 2013), 140-148.

[C.4] **Andujar, M.,** Ekandem, J.I., Gilbert, J.E., & Morreale, P. (2013). *Evaluating Engagement Physiologically and Knowledge Retention Subjectively through Two Different Learning Techniques*, 15th International Conference, HCI International 2013, Las Vegas, NV, USA, July 21-26, 2013, In Proceedings, Part II, Vol. 8005 of Lecture Notes in Computer Science, pp. 335-342.

[C.3] **Andujar, M.** & Gilbert, J.E. 2013. Let's Learn!: Enhancing User's Engagement Levels Through Passive Brain-Computer Interfaces. In CHI '13 Extended Abstracts on Human Factors in Computing Systems (CHI EA '13). ACM, New York, NY, USA, 703-708.

[C.2] **Andujar, M.,** Aguilera, L., Jimenez, L., Zabe, F., Shah, J., Jimenez, Y. & Morreale, P. (2012). Attracting High School Students to Computing: A Case Study with Drag-Drop Interfaces. In Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2012 (pp. 525-530). Chesapeake, VA: AACE.

[C.1] **Andujar, M.**, Ekandem, J., Alvarez, I., James, M. & Gilbert, J. (2011). Are Educational Video Games All They're Cracked Up To Be? A Physiological Approach For Measuring Engagement in Educational Video Games vs. Conventional Learning Techniques. In *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2011* (pp. 539-544). Chesapeake, VA: AACE

Book Chapters

[BC.1] Darnell, S. S., Mack, N., Jackson, F., Alnizami, H., James, M., Ekandem, J. I., Alvarez, I., **Andujar, M.**, Moon, D., Gilbert, J.E. (2014). Human-computer interfaces for speech applications. In T. F. Gonzalez, J. Diaz-Herrera & A. Tucker (Eds.), Computing handbook, 3rd ed. (1) (3rd ed., pp. 92:1-92:1-15) CRC Press.

Workshop Papers [Hosted]

[W.3] Canavan, S., **Andujar, M.,** Yin, L., Nijholt, A., and Schotter, E. 2018. Ubiquitous Emotion Recognition with Multimodal Mobile Interfaces. In Proceedings of the 2018 ACM International Joint Conference and 2018 International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers (UbiComp '18). ACM, New York, NY, USA, 937-941.

[W.2] Nijholt, A., Jacob, J. K. R., **Andujar, M.**, Yuksel F. B., and Leslie, G. 2018. Brain-Computer Interfaces for Artistic Expression. In Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems (CHI EA '18). ACM, New York, NY, USA, Paper W22, 7 pages.

[W.1] Brewer, R., **Andujar M.**, Erete, S., Metoyer A. R., Perez-Quinones A. M., and Rankin, Y. 2018. Computer-Human Interaction Mentoring (CHIMe) 2018. In Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems (CHI EA '18). ACM, New York, NY, USA, Paper Sym01, 4 pages.

Other Publications/Demo/ Extended Abstracts

[OP.3] Garcia, S., Abraham, S. J., & **Andujar, M.** (2021, June). Exploring Perceptions of Bystander Intervention Training using Virtual Reality. In ACM International Conference on Interactive Media Experiences (pp. 253-257).

[OP.2] Tezza, D., Laesker, D., and **Andujar, M.** 2021. The Learning Experience of Becoming a FPV Drone Pilot. In Companion of the 2021 ACM/IEEE International Conference on Human-Robot Interaction (HRI '21 Companion). Association for Computing Machinery, New York, NY, USA, 239–241.

[OP.1] Garcia, S., Kauer, R., Laesker, D., Nguyen, J., and **Andujar, M.** 2019. A Virtual Reality Experience for Learning Languages. In Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems (CHI EA '19). ACM, New York, NY, USA, Paper INT039, 4 pages.

Refereed Conference Posters

[P.2] **Andujar, M.,** Jackson, F., Moon, D., & Gilbert, J.E. 2015. The Adaptation of Affective Brain-Computer Interfaces Towards Card Sorting Activities. 2015 CAHSI Summit.

[P.1] **Andujar, M.,** Aguilera, L., Jimenez, Y, Zabe, F. & Morreale, P., 2013. Improving Hispanic High School Student Perception of Computing. In proceedings of the 44th SIGCSE ACM Technical Symposium on Computer Science Education, pp. 741.

EXTERNAL FUNDING

Andujar, M. (PI), EAGER: Immersive Brain Painting for College Students with ADHD, NSF, 09/01/2020-05/31/2023, $80,205.

Andujar, M. (PI), A Brain Communication System Matching Funds, Florida Corridor MGRP, 10/02/2019-10/01/2020, $48,500.

Andujar, M. (PI), A Brain Communication System, SOFWERX, 10/02/2019-10/01/2020, $48,500.

Andujar, M. (PI), Brewer, R., Perez-Quinonez, M., Metoyer, R., Erete, S., Ranking, Y., Workshop: Student Travel Support for the CHI Mentoring (CHIMe) 2018 Workshop, NSF, 05/01/2018 – 05/28/2018, $25,825.

Andujar, M. (PI), Crawford, C., Jackson, F. & Gilbert, J.E., Brain-Computer Interface Research & Development, Intel Corp., 8/15/2015 – 8/14/2017, $300,000.

HONORS, AWARDS & FELLOWSHIPS

TechConnect | Defense Innovation Award – An Artistic Neurotechnology to Improve Mental Health (Top 15%)	2022
TechConnect | Defense Innovation Award – Brain Password: Securing digital data with brain signals (Top 15%)	2022
TechConnect | Defense Innovation Award – Assessing Cognitive Load Using Explainable AI (Top 15%)	2022
TechConnect | Defense Innovation Award – A Cognitive Workload Training Application (Top 15%)	2022
Top 10 Under 40 in Tampa Bay, Florida by Tampa Magazine	2022
Golden Key International Honor Society (Top 15% of graduate students)	2017
National Science Foundation Graduate Research Opportunities Worldwide (NSF GROW) Grant	2016
Tau Beta Pi (TBP) Engineering (Alpha Chapter) Honor Society	2016
National Science Foundation Graduate Research Fellowship (NSFGRF)	2014
Generation Google Scholarship	2014
Research Fellowship, National Science Foundation (NSF) Human-Centered Computing S-STEM	2012-2014
Alpha Epsilon Lambda Graduate School Honor Society [Top 1% Grad. Student]	2013
2nd Place at the GEM Ph.D. Research Technical Competition	2013

1st Place, **Intel Labs** Country Fair Research Demo	2013
GEM Fellowship, The National GEM Consortium, Sponsored by Intel	2013
ACM Travel Grant, Richard Tapia Celebration of Diversity in Computing	2009, 2013
1st Place, Best Undergraduate Research Project Award, Phi Kappa Phi Honor Society (Kean Chapter)	2012
1st Place, Best Research Paper Award, Phi Kappa Phi Honor Society (Kean Chapter)	2012
Admitted, Louis Stokes Alliance for Minority Participation Program (LSAMP)	2010-2012
Dean's List, Kean University	2009, 2012
National Science Foundation (NSF) Computer Science S-STEM Scholarship, Kean University	2009-2012
Admitted, Ronald E. McNair Post-Baccalaureate Achievement Program	2008-2012
Best Student Leader in Programming Events and Workshops, Kean University	2011
Hispanic Association College Employees (HACE) Scholarship, Kean University	2011
Smart Grant, Kean University	2009-2010
Epsilon Epsilon Omega (EEO) List**,** Kean University	2008-2010
Honorable Mention for Poster Presentation, 23rd Annual Ronald E. McNair Conference Symposium	2009
Certification Requirement of College Reading & Learning Association at the Master Level	2008
Outstanding Academic Achievement in Composition for Non-Native Speakers, Kean University	2007

PRESENTATIONS

External Presentations

[EP.44]	**Invited Talk –** "Improving People's Lives with Brain-Computer Interfaces," Executive Forum LMCU Presentation	March 29, 2023
[EP.43]	**Invited Talk –** "Navigating the PhD Path," CAHSI Backbone	March 24, 2023
[EP.42]	**Invited Talk –** "An Artistic Neurotechnology to Improve Mental Health," Defense TechConnect	Sept 27, 2022
[EP.41]	**Invited Talk** – "Artistic Brain-Computer Interfaces for the ADHD Community," DUB Seminar, University of Washington	August 10, 2022
[EP.40]	**Panelist – "**The Future of Drones," AUVSI Conference 2019	May 1, 2019
[EP.39]	**Invited Talk –** "Introduction to Brain-Controlled Drones," Digital Orlando 2019	April 10, 2019
[EP.38]	**Demo –** "Brain-Controlled Drones," Sun'n'Fun Aerospace Expo 2019	April 2-7, 2019
[EP.37]	**Invited Talk –** "Implications of Brain-Controlled Drones," Town and Gown Tampa Women Group	January 16, 2019
[EP.36]	**Invited Talk –** "Quantifying the Human Brain During Human-Computer Interaction with Brain-Computer Interfaces", International Conference on Electronics & Electrical Engineering	July 26-28, 2018
[EP.35]	**Demo –** "Brain-Controlled Drones Simulation," NSF USA Science and Engineering Festival	April 7-8, 2018
[EP.34]	**Demo –** "Brain-Controlled Drones Simulation," SOFWERX ThunderDrone RPE II Tech Expo	Jan. 29-31, 2018
[EP.33]	**Poster Presentation -** "Aiding users to self-regulate their attention through Quantified-Self feedback while performing a learning task from a Brain-Computer Interface" GEM-ASEE Doctoral Engineering Research Showcase	Jan. 23, 2018
[EP.32]	**Invited Talk** – "Connecting Your Brain to the World," 6th-8th graders at Emil A. Cavallini Middle School, Upper Saddle River, NJ	Dec. 22nd, 2017
[EP.31]	**Workshop** – "Connecting Your Brain to The World," Hands to Love Camp for Kids with Upper Limbs Differences, Stark, FL	March 11th, 2017
[EP.30]	**Workshop** – "When Professor Says X and Mean Y," GEM Conference, Miami, FL	August 5th, 2016
[EP.29]	**Invited Talk** – "Brain-Computer Interfaces: The New Frontier", Computer Science Department, UC Davis, Davis, CA	May 3rd, 2016
[EP.28]	**Invited Talk** – "Brain-Computer Interfaces: The New Frontier", HFES Student Chapter, Embry-Riddle, Daytona Beach, FL	April 26th, 2016
[EP.27]	**Panelist** – "Becoming a Competitive Applicant for Graduate School", SHPE Conference, Baltimore, MD	Nov. 12th, 2015
[EP.26]	**Panel Moderator** – "GEM GRAD LAB – Voices from the Field", U. of South Carolina, Columbia, SC	Oct. 24th, 2015

[EP.25]	**Panel Moderator** – "GEM GRAD LAB – Voices from the Field", Drexel University, Philadelphia, PA	Oct. 17th, 2015
[EP.24]	**Oral Presentation** – "User Experience Differentiation", iCDG Staff Report Out, Intel, Hillsboro, OR	August 3rd, 2015
[EP.23]	**Oral Presentation** – "User Experience Differentiation", GEM Report Out, Intel, Hillsboro, OR	July 27th, 2015
[EP.22]	**Panelist –** "Preparing the Graduate Program Application", Graduate Prep Track Program, Society of Hispanic Professional Engineers Conference, Detroit, MI	Nov. 7th, 2014
[EP.21]	**Poster Presentation –** "BCI Title", Broadening Participation Workshop, ACM SIGCHI International Conference on Ubiquitous Computing, Seattle, WA	September, 2014
[EP.20]	**Oral Presentation (Invited) –** "How to Find your Passion and get into College", Abundant Life Academy, Nutley, NJ	May, 2014
[EP.19]	**Oral Presentation** – "Automotive Driving & Distraction", GEM Conference, San Juan, Puerto Rico	August, 2013
[EP.18]	**Paper (Oral) Presentation** – "Evaluating Engagement Physiologically and Knowledge Retention through Two Different Learning Techniques", HCI International Conference, Las Vegas, NV	July, 2013
[EP.17]	**Paper (Poster) Presentation** – "Let's Learn!: Enhancing User's Engagement Levels Through Passive Brain-Computer Interfaces", ACM SIGCHI Conference on Human Factors in Computing Systems, Paris, France	April, 2013
[EP.16]	**Oral Presentation –** "A Physiological Approach for Measuring Engagement Levels in Educational Video Games vs. Conventional Learning Techniques", Emerging Researchers National (ERN) Conference in Science, Technology, Engineering and Mathematics (STEM), Atlanta, GA	2012
[EP.15]	**Poster Presentation –** "Brain-Computer Interface: A physiological Approach for Measuring Engagement in Educational Video Games vs. Conventional Learning Techniques", Society of Hispanic Professional Engineers (SHPE) Conference, Anaheim, CA	2011
[EP.14]	**Poster Presentation –** "Are Educational Video Games All They're Cracked Up to Be?: A Physiological Approach for Measuring Engagement Levels in Educational Video Games vs. Conventional Learning Techniques", Annual Hispanic Engineer National Achievement Awards Corporation (HENAAC) 23th Conference, Lake Buena Vista, FL	2011
[EP.13]	**Paper (Oral) Presentation –** "Are Educational Video Games All They're Cracked Up to Be?: A Physiological Approach for Measuring Engagement Levels in Educational Video Games vs. Conventional Learning Techniques", World Conference on E-Learning in Corporate, Government, Healthcare, & Higher Education, Honolulu, HI	2011
[EP.12]	**Poster Presentation –** "Are Educational Video Games All They're Cracked Up to Be?: A Physiological Approach for Measuring Engagement Levels in Educational Video Games vs. Conventional Learning Techniques", National Science Foundation (NSF) CRA-W/CDC Poster Presentation, National Science Foundation Head Quarters, Arlington, VA	2011
[EP.11]	**Poster Presentation –** "The Educational Games Panacea: Measuring Engagement Levels for Educational Games vs. Traditional Text Literature using a Wireless EEG Headset", Distributed Research Experience for Undergraduates (DREU), Clemson University, Clemson, SC	2011
[EP.10]	**Poster Presentation –** "Brain-Computer Interfaces (BCI)", Society of Hispanic Professional Engineers (SHPE) Conference, Cincinnati, OH	2010
[EP.9]	**Poster Presentation –** "Brain-Computer Interfaces (BCI)", Research Experience for Undergraduates (REU), Clemson University, Clemson, SC	2010
[EP.8]	**Oral Presentation –** "Interface Design for Scientists: A Case Study using Carbon Sequestration Models", 11th National Conference for McNair Scholars and Undergraduate Research, College Park, MD	2010
[EP.7]	**Poster Presentation –** "Interface Design for Scientists: A Case Study using Carbon Sequestration Models", Society of Hispanic Professional Engineers (SHPE) Conference, Washington, DC	2009

[EP.6] **Oral Presentation –** "Alice or Java: Determining the Best Entry Point into Computer Science Education", Society of Hispanic Professional Engineers (SHPE) Conference, Washington, DC 2009

[EP.5] **Oral Presentation –** "Alice or Java: Determining the Best Entry Point into Computer Science Education", 17th Annual McNair Scholars Symposium, Berkeley, CA 2009

[EP.4] **Poster Presentation –** "How 3D Software is Attracting Students to Computer Science", Annual Ronald E. McNair Commemorative Symposium, Greensboro, NC 2009

[EP.3] **Oral Presentation –** "Alice or Java: Determining the Best Entry Point into Computer Science Education", Annual Ronald E. McNair Commemorative Symposium, Greensboro, NC 2009

[EP.2] **Poster Presentation –** "Alice or Java: Determining the Best Entry Point into Computer Science Education", 6th Annual National McNair Scholars Research Conference, Newark, DL 2008

[EP.1] **Oral Presentation –** "3-D Software is Attracting Students to Computer Science", Ronald E. McNair Research Summer Institute, Kean University, Union, NJ 2008

Internal Presentations

[IP.20] **Oral Presentation –** "P300-Based Applied BCIs," Psychology Course, USF March 22, 2023

[IP.19] **Oral Presentation –** "A Brain-Computer Interface Approach to Age Tech," AgeTech Seminar, CSE, USF October 28, 2022

[IP.18] **Keynote Speaker** – "Brain-Drone Racing,"11th annual Bring sons and daughters to work at USF, Tampa, FL June 7th, 2019

[IP.17] **Demo/Presenter** – "Brain-Drone Racing," Roboticon Tampa Bay Sept. 29th, 2018

[IP.16] **Oral Presentation** – "The Intersection of Brain-Computer Interfaces and Artificial Intelligence," CSE AI Group at University of South Florida, Tampa, FL September, 2018

[IP.16] **Oral Presentation** – "Connecting Your Brain to the World" USF Engineering Expo, Tampa, FL Feb. 16-17, 2018

[IP.15] **Oral Presentation** – "Connecting Your Brain to the World", University of Florida, Gainesville, FL March 21st, 2017

[IP.14] **Oral Presentation** – "Neural Methods of Brain-Robot Interaction", University of Florida, Gainesville, FL March 17th, 2016

[IP.13] **Oral Presentation** – "Choosing the Optimal Path", SHPE General Body Meeting, University of Florida, Gainesville, FL Feb. 3rd, 2016

[IP.12] **Oral Presentation** – "Neural Methods of Brain-Robot Interaction & the Understanding of User's Affective State", CISE Industrial Advisory Board Meeting, University of Florida, Gainesville, FL Jan. 26th, 2016

[IP.11] **Panelist** – "National Science Foundation Graduate Student Research Fellowship", Graduate School, University of Florida, Gainesville, FL April 2nd, 2015

[IP.10] **Panelist** – "External Funding Options for Domestic Students at UF", Graduate School Division of Graduate Student Affairs, University of Florida, Gainesville, FL August, 2014

[IP.9] **Panelist** – "Research-Experience for Undergraduate (REU) Programs", Graduate School, Clemson University, Clemson, SC April, 2014

[IP.8] **Oral Presentation** – "Tech Talk: Perspectives of Brain-Computer Interfaces", School of Computing Graduate Student Association, Clemson University, Clemson, SC February, 2013

[IP.7] **Oral Presentation** – "Social Media Workshop: How It Can Help. How It Can Hurt", Minority Student Success Initiative Program, Clemson University, Clemson, SC September, 2012

[IP.6] **Oral Presentation –** "Cache Speed", Parallel and Distributed Computing Workshop, Kean University, Union, NJ 2012

[IP.5] **Poster Presentation –** "Interface Design for Scientists: A Case Study using Carbon Sequestration Models", Research Day, Kean University, Union, NJ 2010

[IP.4] **Oral Presentation –** "Interface Design for Scientists: A Case Study using Carbon Sequestration Models", Ronald E. McNair Research Summer Institute, Kean University, Union, NJ 2009

[IP.3] **Poster Presentation –** "Alice or Java: Determining the Best Entry Point Into Computer Science Education", Research Day, Kean University, Union, NJ 2009

[IP.2] **Oral Presentation –** "3-D Correlation with other Sciences", Earth Day, Kean University, Union, NJ 2009

[IP.1] **Poster Presentation –** "Alice or Java: Determining the Best Entry Point Into Computer Science Education", WeCare About NJ Workshop, Kean University, Union, NJ 2008

SERVICE

Conference Papers Reviewing

IEEE SMC – IEEE International Conference on Systems, Man, and Cybernetics 2019, 2023
NORDICHI – NORDIC Research in Human-Computer Interaction 2016
CHI – Conference on Human Factors in Computer Systems 2013-Present
HFES – Human-Factors and Ergonomics Society 2013-Present
SIGCSE – ACM Symposium on Computer Science Education 2013-Present

Other Conference Service

Internet Group Chair, Human-Factors and Ergonomics Society 2018-2019
Session Chair, Brain-Computer Interfaces for Artistic Expressions, CHI 2018 April, 2018
U. of Florida Grad. School Recruiter, Society of Hispanic Professional Engineers (SHPE) Conference, Detroit, MI Nov., 2014
Session Chair, The 2014 International Conference on Artificial Intelligence (ICAI'14) Aug., 2014

Reviewing at the University Level

Hackathon Judge, Hackabull 03/2019
Poster Judge, 11th Annual USF Graduate Student Research Symposium 03/2019
Poster Judge, 10th Annual USF Graduate Student Research Symposium 03/2018
Poster Judge, Graduate Student Research Day at University of Florida 10/2014
Poster Judge, Undergraduate Poster Symposium at Clemson University 2013-2014
Reviewer, PEG Travel Grants for Graduate Students 2012-2013

Other Reviewing

NSF Review Panel 2018,2019,2023
NSF Ad-Hoc Review 2019
NSF Review Panel, CISE, IIS Small 2019
Presentation Judge, McKnight Mid-Year Research and Writing Conference 2018
NSF Review Panel, Broadening Participation, CS4All 2018
NSF Ad-Hoc Reviewer, Broadening Participation, Excellence in Research (EiR) 2018
NSF Review Panel, IIS-CHS CRII 2017
Book Chapter Reviewer, Brain-Computer Interface Handbook, Taylor & Francis 2017
Scholarship Apps. Reviewer, ACM Richard Tapia Conference of Diversity in Computing 2015
Editor, NeuroGadget (www.neurogadget.com) 2012-2015
Reviewer, REU-IN-A-Box: Expanding the Pool of Computing Researchers, National Center for Women in Technology (NCWIT), www.ncwit.org/reubox 2011

MEMBERSHIPS

Professional Memberships

The Scientific Research Honor Society (**Sigma XI**) 2019-Present
Brain-Computer Interface Society (**BCI Society**) 2016-Present
Association for Computing Machinery (**ACM**) 2008-Present
Society of Hispanic Professional Engineers (**SHPE**) 2009-Present
ACM Special Interest Group in Computer-Human Interaction (**SIGCHI**) 2012-Present

Institute of Electrical and Electronics Engineers (**IEEE**) 2012-Present
Human-Factors and Ergonomics Society (**HFES**) 2012-Present
Society for Advancement of Chicanos and Native Americans in Science (**SACNAS**) 2012-2013
Mexican American Engineers and Scientists (**MAES**) 2012-2013

University Memberships
Minority Student Success Initiative (**MSSI**) at Clemson University 2012-2014

SELECTED PRESS & DOCUMENTARY RELEASE

Podcasts and Other Interview

[Tampa Magazines] (09/21/22) "2022 Top 10 Under 40: Marvin Andujar"
Link: https://tampamagazines.com/top-10-under-40-marvin-andujar/

[Robotics Live Podcast] (07/25/16) "Brain-Computer Interfaces"
Link: https://www.youtube.com/watch?v=RWB5LpXv27E&index=2&list=FLyXc4i3oZdvvBMR07CHMsNA

Brain Painting 2022

[U.S. News & World Report] (07/23/22) "Can 'Brain Painting' Help ADHD Patients? USF Seeks Answers"
Link: https://www.usnews.com/news/best-states/florida/articles/2022-07-23/can-brain-painting-help-adhd-patients-usf-seeks-answers

[Tampa Bay Times] (07/09/22) "Can 'brain painting' help ADHD patients? USF looks for answers"
Link: https://www.tampabay.com/news/health/2022/07/06/can-brain-painting-help-adhd-patients-usf-looks-for-answers/

[Hyperallergic] (08/14/19) "New "Brain Painting" Tech Promises to Cure ADHD"
Link: https://hyperallergic.com/739048/new-brain-painting-tech-promises-to-cure-adhd/

[Edge Foundation] ( ) ""
Link: https://edgefoundation.org/brain-painting-and-adhd/

[CBS News: CW44 Tampa Bay] (06/22/22) "USF: Scientists develop 'brain painting, brain movement' device, testing for ADHD treatment."
Link: https://www.cbsnews.com/tampa/news/usf-scientists-develop-brain-painting-brain-movement-device-testing-for-adhd-treatment-1/

[Telegraph Herald] (07/18/22) "Can 'brain painting' help ADHD patients?"
Link: https://www.telegraphherald.com/news/features/article_e478059e-c391-5471-a4c5-a872f954ffcb.html

[Fox13 Tampa Bay] (06/06/22) "USF professor uses 'brain paint' to help treat those with ADHD through abstract art"
Link: https://www.fox13news.com/news/usf-professor-uses-brain-painting-to-help-treat-those-with-adhd-through-abstract-art

Brain-Drone Race 2019 at USF

[C4ISRNET] (04/26/19) "In this league, drone races are won by brainwaves alone"
Link: https://www.c4isrnet.com/unmanned/2019/04/26/league-races-drones-by-brainwaves-alone/

[Royal Aeronautical Society] (04/19/19) "Racing Brains"
Link: https://www.aerosociety.com/news/racing-brains/

[Aero News Network] (02/16/19) "Students Compete in USF's First Brain-Drone Race"
Link: http://www.aero-news.net/index.cfm?do=main.textpost&id=ae40e49b-1235-4f86-9e23-52c3b31d3502

[WJCT] (04/10/19) "Talk About Brain Power: USF Students Fly Drones Using Their Minds"
Link: https://news.wjct.org/post/talk-about-brain-power-usf-students-fly-drones-using-their-minds

[USF Newsroom] (02/12/19) "Students Compete in USF's First Brain-Drone Race"
Link: https://www.usf.edu/news/2019/students-compete-usfs-first-brain-drone-race.aspx

[AUVSI] (02/12/19) "University of South Florida's Brain-Drone Race Welcomes Diversity and Inclusivity"
Link: https://www.auvsi.org/industry-news/university-south-floridas-brain-drone-race-welcomes-diversity-and-inclusivity

[USF Oracle] (02/10/19) "Mind meets machine"
Link: http://www.usforacle.com/2019/02/10/mind-meets-machine/

[Fox 13 News] (02/09/19) "USF students control drones with their brains using electronic headbands"
Link: http://www.fox13news.com/news/local-news/usf-students-control-drones-with-their-brains-using-electronic-headbands

[Drone Below] (02/08/19) "USF Holding Brain-Controlled Drone Race"
Link: https://dronebelow.com/2019/02/08/usf-holding-brain-controlled-drone-race/

[Seronok Kabar] (02/07/19) "Mind over matter: USF to host its first Brain-Drone Race – Tampa Bay Times"
Link: http://seronokkabar.blogspot.com/2019/02/mind-over-matter-usf-to-host-its-first.html

[Unmanned Aerial] (02/07/19) "USF Holding Race with Brain-Controlled Drones"
Link: https://unmanned-aerial.com/usf-holding-race-with-brain-controlled-drones

[Tampa Bay Inno] (02/07/19) "How USF Students Are Using "The Force" to Race Drones"
Link: https://www.americaninno.com/tampabay/news/how-usf-students-are-using-the-force-to-race-drones/

[Tampa Bay Times] (02/07/19) "Mind over matter: USF to host its first Brain-Drone Race"
Link: https://www.tampabay.com/hillsborough/mind-over-matter-usf-to-host-its-first-brain-drone-race-20190207/

[Life Between Weekends] (01/16/19) "You Can Now Race Drones Using Your Mind"
Link: http://www.lifebetweenweekends.com/2019/01/you-can-now-race-drones-using-your-mind/

[USF Magazine Winter Edition] (12/01/18) "Mind and machine: Flying drones with your brain"
Link: https://issuu.com/usfucm/docs/usf_magazine_winter_2018_-_web/16

[AUVSI] (11/08/18) "University of South Florida to Host USF Brain-Drone Race in Early 2019"
Link: https://www.auvsi.org/industry-news/university-south-florida-host-usf-brain-drone-race-early-2019

[USF Newsroom] (10/30/18) "Mind & Machine: Students to Compete in USF's First Brain-Drone Race"
Link: https://www.usf.edu/news/2018/mind-machine-students-to-compete-usf-first-ever-brain-drone-race.aspx

[The National Center for Simulation] (07/24/18) "University of South Florida announces Brain-Drone Race, Feb. 9, 2019"
Link: https://www.simulationinformation.com/news/university-south-florida-announces-brain-drone-races-february-9-2019

Brain-Drone Race 2016 (Showcased in more than 550 news outlets domestically and internationally)

French documentary on the future of communication in 2050.

[La Vanguardia] (10/10/2016) "La primera Carrera de drones pilotados con la mente"
Link: http://one.lavanguardia.com/la-primera-carrera-de-drones-pilotados-con-la-mente/
[El Pais] (05/10/16) "Una Carrera mental de Drones"
Link: http://elpais.com/elpais/2016/04/29/ciencia/1461944383_381987.html

[Mashable] (04/27/16) "Brain-controlled drone races are now a reality"
Link: http://mashable.com/2016/04/27/brain-controlled-drone-races/?utm_cid=mash-com-Tw-main-link#f3uxRZTBgPqJ

[Techcrunch] (04/25/16) "University of Florida held the world's first brain-controlled drone race"
Link: https://techcrunch.com/2016/04/25/university-of-florida-held-the-worlds-first-brain-controlled-drone-race/

[CNET] (04/26/16) "Racing drones using your mind looks fun"
Link: http://www.cnet.com/news/racing-drones-using-mind-brain-drone-race-tomorrow-daily-354/#ftag=CAD590a51e

[ACM Technews] (04/25/16) "*Ready, Set, Think! Mind-Controlled Drones Race to the Future*"
Link: http://cacm.acm.org/news/201537-ready-set-think-mind-controlled-drones-race-to-the-future/fulltext

[Techcrunch] (04/25/16) "*University of Florida held the world's first brain-controlled drone race*"
Link: https://techcrunch.com/2016/04/25/university-of-florida-held-the-worlds-first-brain-controlled-drone-race/

[The New York Times] (04/22/16) "Brain-Controlled Drones"
Link: http://www.nytimes.com/aponline/2016/04/22/us/ap-us-brain-controlled-drones.html?_r=0

[USA Today] (04/22/16) "Ready set think: mind controlled drones race future"
Link: http://www.usatoday.com/videos/news/nation/2016/04/22/83375158/

[Associated Press] (04/22/16) "Ready set think: mind controlled drones race future"
Link: http://bigstory.ap.org/article/d04cc633285c468b8f31f2214cf2feac/ready-set-think-mind-controlled-drones-race-future

Brain-Robot Interaction (BRI)

[Mind Fully Alive] (05/31/15) "*Students develop a way to pilot drone with brainwaves*"
Link: http://www.mindfullyalive.com/blog/2015/5/31/students-develop-a-way-to-pilot-drone-with-brainwaves

[Neurogadget] (05/27/15) "*PhD students build brain-controlled FPV drone*"
Link: http://neurogadget.net/2015/05/27/phd-students-build-brain-controlled-fpv-drone/11357

[WUFT PBS 5] (04/29/15) "*UF Ph.D. Students Developing Brain Robot Interaction Technology*"
Link: http://www.wuft.org/news/2015/04/29/uf-ph-d-students-developing-brain-robot-interaction-technology/

[Type 2 Designs] (04/14/15) "The mind-controlled drone"
Link: https://www.type2designs.com/the-mind-controlled-drone/

[Fox 35 News Orlando] (04/07/15) **"***UF Students Design Build Drone Controlled by Human Thoughts*"
Link: https://www.youtube.com/watch?v=CWiPtXxReJc

[The Independent Florida Alligator] (04/07/15) "*UF doctoral students program software for mind-controlled drone*"

Link: http://www.alligator.org/news/campus/article_7c066574-dce5-11e4-a01e-df25cc8d2371.html

[News 4 Jax] (03/28/15) "*UF lab director puts "human" into human-centered computing*"
Link: http://www.news4jax.com/news/local/uf-lab-director-puts-human-into-human-centered-computing

Intel Internship Project

[**Engadget**] (06/26/13) "*Intel Labs Measures Cognitive Workload of Distracted Drivers, We Go Eyes-On with the Demo*"
Link: http://www.engadget.com/2013/06/26/intel-cognitive-workload-distracted-drivers/?utm_medium=feed&utm_source=Feed_Classic&utm_campaign=Engadget

ADVISED STUDENTS

Graduated PhD Students

- Dante Tezza (URM), Computer Science, USF, (grad date: Spring 2021) – Assistant Professor, St. Mary University
  - *Dissertation Title:* A Modular Framework for Multi-Rotor Unmanned Aerial Vehicles for Military Operations
  - Recognitions: Generations Google Scholar
- Sarah Garcia (URM), Computer Science, USF, (grad date: Spring 2023) – Researcher, ARMY Research Lab
  - Dissertation Title: Exploring Scalability of Multimodal User Interface Design in Virtual and Augmented Reality
  - Recognitions: GEM Fellow, Sloan Fellow, GMiS Oracle Scholar, LSAMP Fellow, SMART Fellow, Generations Google Scholar

Graduated MS Students with Thesis – Female: 1 | Underrepresented Minorities: 2

- Rupal Agarwal, MS Student, Computer Science, USF (grad date: Spring 2020)
  - *Thesis Title:* Classifying Emotions with EEG and Peripheral Physiological Data using 1D Convolutional Long Short-Term Memory Neural Network
- Tyree Lewis, MS Student, Computer Science, USF (grad date: Summer 2021)

Current PhD Students Advised as Major Professor - Female: 1 | Underrepresented Minorities: 2

- Rupal Agarwal (F), PhD Student, Computer science, USF, (tent grad date: Spring 2024)
- Tyree Lewis (URM), PhD Student, Computer Science, USF (tent grad date: Spring 2026)

Current & Past Undergraduate Thesis Project Advised as Major Professor - Underrepresented Minorities: 1

- Willie McClinton, Computer Science, USF (tent grad date: Spring 2020)
  - Student Awards: NSFGRF, GEM Fellowship, Gold Water, Honorable Mention for CRA Undergraduate Research Awards

Current Undergraduate Students Supervised as Lab Director - Female | Underrepresented Minorities
N/A

Past Undergraduate Students Supervised as Lab Director - Female: 16 | Underrepresented Minorities: 12

- Carlos Alvarado (URM), Computer Science
- Amber Imeh (F, URM), Computer Science
- Victoria Carlos (F), Computer Science
- Jasmine Kaur (F), Computer Science
- Ahmed Abd-Elrahman, Computer Science
- Anfal AlYousufi (F), Computer Science
- Jason Nguyen, Computer Science
- Ronald Kauer (URM), Computer Science

- Derek Caprio, Computer Science
- Denis Laesker (URM), Computer Science
- Gil Olenscki Neto (URM), Computer Science
- Gregory Hinkson (URM), Computer Science
- Hetvi Mehta (F), Computer Science
- Hitarthi Shah (F), Computer Science
- Jack Yuan Jie Yang (URM), Computer Science
- Jamshidbek Mirzakhalov, Computer Science
- Kaitlyn Evans (F), Computer Science
- Karishma Jayaprakash (F), Computer Science
- Katherine Giraldo (F, URM), Computer Science
- Kevin Alicea (URM), Computer Science
- Krishna Patel (F), Computer Science
- Maher Ismail, Computer Science
- Matthew Monnik, Computer Science
- Megan Hilsmann (F), Computer Science
- Rodrigo Caldas (URM), Computer Science
- Sophia Abraham (F), Mechanical Engineering
- Tamjid Hossain, Computer Science
- Tran Hoang Minh, Psychology
- Yessika Lugo (F), Computer Science
- Ahsan Wahab, Computer Science
- Anis Elebiary, Computer Science
- Tracy Pham (F), Computer Engineering
- Willie McClinton (URM), Computer Science
- Isabella Mantilla (F), Computer Science
- Anthony (Huy) Nguyen, Computer Science
- Pankti Mehta (F), Computer Science
- Ryan Joseph, Computer Science
- Si Dang, Computer Science
- Uchenna Chima (URM), Computer Science

Current Committee Member for PhD Dissertation and MS Thesis

- Ramy Mounir, PhD Student, Mechanical Engineering (Ongoing) | Advisor: Dr. Redwan Alqasemi
- Sriram Krishnamoorthy, PhD Student, Mechanical Engineering, USF (Ongoing) | Advisor: Dr. Sarah (Ying) Zhong

Past Committee Member for PhD Dissertation and MS Thesis

- Seyed Alireza Khoshnevis, PhD Student, Electrical Engineering, USF (Grad: FA 2021) | Advisor: Dr. Ravi Sankar
- Valeria Salas Pacheco, MS Thesis, Computer Science and Engineering (Grad: FA 2021) | Advisor: Alfredo Weitzenfield
- Troi Williams, PhD Student, Computer Science (Graduation: Fall 2021) | Advisor: Dr. Yu Sun
- Saurabh Hinduja, PhD Student, Computer Science (Graduation: Spring 2021) | Advisor: Dr. Shaun Canavan
- Astha Sharma, MS, Computer Science, USF, (Graduation: Fall 2018) | Advisor: Dr. Shaun Canavan
- Pablo Scleidorovich, PhD Student, Computer Science, USF | Advisor: Dr. Alfredo Weitzenfield