RUPAL AGARWAL

rupalagarwal@usf.edu • www.linkedin.com/in/rupal-agarwal • https://scholar.google.com/citations?hl=en&user=PobxeG4AAAAJ

EDUCATION

Doctor of Philosophy (Ph.D.) **Expected Graduation May 2025**
University of South Florida Tampa, FL
Major: Computer Science (GPA: 3.87/4.0)
Advisor: Marvin Andujar, Ph.D.

Master of Science (M.S.) **May 2020**
University of South Florida Tampa, FL
Major: Computer Science (Cumulative GPA: 3.83/4.0)
Master's Thesis: Classifying Emotions with EEG and Peripheral Physiological Data Using 1D Convolutional Long Short-Term Memory Neural Network
Advisor: Marvin Andujar, Ph.D.

Bachelor of Science (B.S.) **May 2018**
Manipal University Jaipur Jaipur, India
Major: Computer Science and Engineering (Cumulative GPA: 8.67/10.0)

WORK EXPERIENCE

Graduate Research Assistant **January 2019 – Present**
Neuro-Machine Interaction Lab**,** University of South Florida, Tampa, FL

Graduate Teaching Assistant **December 2019 – Present**
Department of Computer Science & Engineering, University of South Florida, Tampa, FL

Software Developer Intern **February 2018 – June 2018**
Knimbus Online Private Ltd., Gurgaon, India

RESEARCH INTERESTS

Brain-Computer Interfaces (BCI), Machine Learning, Affective Computing

PUBLICATIONS

Journals

[J.1] **Agarwal, R.**, Andujar, M., & Canavan, S. (2022). Classification of emotions using EEG activity associated with different areas of the brain. *Pattern Recognition Letters*, *162*, 71–80. **(Impact Factor: 5.1)**

Conference Papers

[C.2] **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.1] Lewis, T., **Agarwal, R.**, & Andujar, M. (2023). Distance Metric-Based Classification Comparisons for a Brain Computer Interface Authentication. In *International Conference on Systems, Man, and Cybernetics (SMC)*. IEEE.

Workshop Papers

[W.1] Lewis, T., **Agarwal, R.**, & Andujar, M. (2022, August). An Ethical Discussion on BCI-Based Authentication. In *International Conference on Pattern Recognition* (pp. 166-178). Cham: Springer Nature Switzerland.

Master's Thesis

[MT.1] **Agarwal, R.** Classifying Emotions with EEG and Peripheral Physiological Data Using 1D Convolutional Long Short-Term Memory Neural Network. *MS Thesis. Completed towards master's degree at University of South Florida, 2020.*

PATENT

Neuro-Voting patent application filed in 2023. **(Status: Pending)**

PRESENTATIONS

[P.8] **Oral Presentation -** "Brain-Controlled Drones", Kadoka Academy, St. Petersburg, FL, **November 2023**

[P.7] **Oral Presentation -** "Brain-Controlled Drones", Cybersecurity Bootcamp, University of South Florida, Tampa, FL, **July 2023**

[P.6] **Oral Presentation -** "Introduction to Brain-Computer Interfaces and Emotiv", Neuro-Machine Interaction Lab Tour, University of South Florida, Tampa, FL, **March 2023**

[P.5] **Oral Presentation** – "Introduction to Brain-Computer Interfaces and Emotiv", Hackabull, University of South Florida, Tampa, FL, **March 2023**

[P.4] **Oral Presentation** – "Attention Retention Using Brain Painting", Human-Computer Interaction course, University of South Florida, Tampa, FL, **November 2022**

[P.3] **Oral Presentation** – "Attention Retention Using Brain Painting", AI + X seminar, University of South Florida, Tampa, FL, **October 2022**

[P.2] **Paper (Oral) Presentation** – "Neuro-Voting: An Accuracy Evaluation of a P300-Based Brain-Computer Interface for Casting Votes", International Conference on Human-Computer Interaction, Virtual, **June 2022**

[P.1] **Poster Presentation -** "Exploring the Use of Brain-Painting to Increase Attention Retention in College Students", USF Health Research Day, University of South Florida, Tampa, FL, **February 2022**

AWARDS

Techconnect Defense Innovation Award**, "**An Artistic Neurotechnology to Improve Mental Health" November 2022
Awarded Scholarship to attend the ACM Tapia Conference 2022. September 2022
Awarded Scholarship to attend the Grace Hopper Conference 2021. September 2021

SERVICE AND COMMUNITY INVOLVEMENT

Conference Papers Reviewing
CHI Late Breaking Work – Conference on Human Factors in Computer Systems
IEEE SMC – International Conference on Systems, Man, and Cybernetics

Program Committee
Third Workshop on Applied Multimodal Affect Recognition (AMAR) – ICPR 2022

Demonstrations
Wiregrass Elementary School, "Flying Drones with Brains," Tampa, FL, October 2022

Volunteering
Sambal India, Non-Profit Organization, Noida, India, January 2017

SELECTED PRESS RELEASE

Brain Painting

[Yahoo News] "Can 'brain painting' help ADHD patients? USF looks for answers", (07/06/2022)
Link: https://news.yahoo.com/brain-painting-help-adhd-patients-093000135.html

[Fox 13 Tampa Bay] "ADHD treatment using virtual reality", (06/06/2022)
Link: https://www.fox13news.com/news/usf-professor-uses-brain-painting-to-help-treat-those-with-adhd-through-abstract-art

[USF Newsroom] “New brain-painting method developed at USF being tested for ADHD treatment”, (05/20/2022)
Link: https://www.usf.edu/news/2022/new-brain-painting-method-developed-at-usf-being-tested-for-adhd-treatment.aspx