Bryan Jose Medina

Curriculum Vitae

Education

2021-Present	**Ph.D. Student, Brain and Cognitive Sciences**, *Massachusetts Institute of Technology*, Cambridge, MA. Advised by Dr. Josh McDermott and Dr. Ila Fiete
2016-2021	**B.S. Computer Science, Minor in Mathematics, Minor in Cognitive Sciences**, *University of Central Florida*, Orlando, FL.

Technical Skills

Programming	PYTHON, JAVA, C++, C, R, MATLAB, JAVASCRIPT, LaTeX, BASH
Software	EMACS, R STUDIO
Libraries and Frameworks	TENSORFLOW, KERAS, PYTORCH, PYGAME, PROCESSING, NUMPY, SCIPY, MATPLOTLIB, PLOTLY

Research Experience

2021-	**Graduate Student, *Fiete Lab*, MIT** Advisor: Dr. Ila Fiete
2021-	**Graduate Student, *Laboratory for Computational Audition*, MIT**
2020-2021	**Visiting Student, *Department of Brain and Cognitive Sciences*, MIT**
2020	**MSRP-BIOx Research Intern, *Center For Brains, Minds, and Machines*, MIT** Advisor: Dr. Josh McDermott
2019	**Undergraduate Program in Neural Computation Research Intern, *Center for the Neural Basis of Cognition*, Carnegie Mellon University** Advisor: Dr. Robert E. Kass
2018-2019	**Undergraduate Research Assistant, *Center for Research in Computer Vision*, University of Central Florida** Advisor: Dr. Mubarak Shah
2017	**Undergraduate Research Assistant, *Hu-Lab*, University of Central Florida** Advisor: Dr. Haiyan Hu

Awards and Honors

2021	*Henry E. Singleton* **Fellowship**, MIT
2021	*Dean of Science Fellow*, MIT
2021	*National Science Foundation Graduate Research Fellow*
2021	*Order of the Pegasus* **Award** (Most Prestigious and Significant Award at UCF)
2020	*Hispanic Heritage Scholarship Fund of Metro Orlando* **Scholar**
2020	*Hispanic Scholarship Fund* **Scholar**
2020	**McNair Summer Research Institute Scholarship**
2020	**Massachusetts Institute of Technology Summer Research Fellow (NSF Funded)**
2019	**Ronald E. McNair Scholar**

2019	**Carnegie Mellon University Summer Research Fellow (NIH Funded)**
2017	**President's Honor Roll** (x4)
2017	**Dean's List** (x5)
2016	***Bright Futures Academic* Scholar**

Publications

Chen Y, Douglas H, **Medina B.J.**, Olarinre M, Siegle J.H., Kass R.E. (Accepted in 2022). *Population Burst Propagation Across Interacting Areas of the Brain.* **Journal of Neurophysiology.**

Abstracts, Conferences, and Presentations

COSYNE 2023. **Medina, B. J.**, McDermott, J. H., (2023, March). *Normative modeling of auditory memory for natural sounds.* Abstract Accepted.

ARO 2023. **Medina, B. J.**, McDermott, J. H., (2023, February). *Psychoacoustics of Auditory Memory for Natural Sounds.* Abstract Accepted.

Cog Lunch. **Medina, B. J.**, (2022, November). *Understanding auditory memory.* Department-wide talk at MIT.

MSRP Bio Presentation. Richardson, A. G., **Medina, B. J.**, Hicks, J. M., McDermott, J. H., (2022, August). *Discovering the Perceptual Space of Natural Sounds from Similarity Judgements.* Poster Presentation.

UCF 2021 Student Symposium. **Medina, B. J.**, Saddler, M. R., McDermott, J. H., (2021, April). *Pitch Representations Emerge in Artificial Neural Networks Optimized for Everyday Auditory Tasks.* Poster Presentation.

ARO 2021. **Medina, B. J.**, Saddler, M. R., McDermott, J. H., (2021, February). *Pitch Representations Emerge in Artificial Neural Networks Optimized for Everyday Auditory Tasks.* Abstract Accepted.

CECIIS-2020. **Medina, B. J.**, Saddler, M. R., McDermott, J. H., (2020, October). *Investigating artificial neural networks optimized for ecological auditory tasks as a normative model of pitch perception.* Abstract accepted. Oral presentation.

SACNAS. **Medina, B. J.**, Saddler, M. R., McDermott, J. H., (2020, October). *Investigating artificial neural networks optimized for ecological auditory tasks as a normative model of pitch perception.* Abstract accepted. Poster presentation.

Baylor University McNair Conference. **Medina, B. J.**, Saddler, M. R., McDermott, J. H., (2020, October). *Investigating artificial neural networks optimized for ecological auditory tasks as a normative model of pitch perception.* Abstract accepted. Poster presentation.

MSRPx BIO Presentation. **Medina, B. J.**, Saddler, M. R., McDermott, J. H., (2020, August). *Investigating artificial neural networks optimized for ecological auditory tasks as a normative model of pitch perception.* Oral presentation.

UCLA McNair Conference. **Medina, B. J.**, Saddler, M. R., McDermott, J. H., (2020, July). *Investigating artificial neural networks optimized for ecological auditory tasks as a normative model of pitch perception.* Abstract accepted. Poster presentation.

Vision Sciences Society Annual Meeting. Hernandez, C. I., Rahill, K., Pham, M., Manriquez, L., Louis, P., Figueroa, A., **Medina, B. J.**, Wolfe, B., Sawyer, B. D., (2020, May). *Prevalence effects are not driving hazard detection on the road.* Abstract accepted. St. Pete Beach, FL. Did not attend due to COVID-19 (Coronavirus) pandemic.

Showcase of Undergraduate Research Excellence. Hernandez, C. I., Rahill, K., Pham, M., Manriquez, L., Louis, P., Figueroa, A., **Medina, B. J.**, Wolfe, B., Sawyer, B. D., (2020, April). *Prevalence effects are not driving hazard detection on the road.* Abstract accepted to Conference at the University of Central Florida, canceled due to COVID-19 (Coronavirus) pandemic

Center for the Neural Basis of Cognition's Summer Undergraduate Poster Session.
Medina, B. J., Olanrire, T., Siegle, J., Kass, R. E., (2019, August). *Response Latencies Across Six Visual Areas in the Mouse*. Presented research conducted with Dr. Robert E. Kass and Tolani Olanrire, Ph.D. student in Machine Learning, at Carnegie Mellon University

Leadership, Membership and Outreach

2020-2021 **Graduate Prep Advisor, *Academic Advancement Programs*,** University of Central Florida
Supervisor: Colleen Smith

2020 **Attendee, *Virtual Brains, Minds, and Machines Summer Course*,** Center for Brains, Minds, and Machines

2020-2021 **Vice-President, *SACNAS*,** University of Central Florida
Advisor: Michael Aldarondo-Jeffries

2020-2021 **Co-Founder, Vice-President, *Cognitive Sciences Club*,** University of Central Florida
Advisor: Dr. Luis Favela

2020 **Journal Club Attendee, *UCF NLP Group*,** University of Central Florida
Advisor: Dr. Fei Liu

2020 **Attendee, *Quantitative Methods Workshop*,** Massachusetts Institute Of Technology
Advisor: Dr. Mandana Sassanfar

2020 ***GIS Day* Volunteer,** University of Central Florida

2019, 2020 **Volunteer, *SECME Regional Competition*,** University of Central Florida

2019, 2020 **Judge, *SECME Codecraft Computer Programming Competition*,** University of Central Florida

2018-2019 **STEM Ambassador *Initiatives in STEM*,** University of Central Florida
Advisor: Rene Johnston

2016 **Teacher, *Hour of Code*,** University of Central Florida

Teaching

2022 **Co-Lecturer, *The Ballad of You and Your Brain (MIT Educational Studies Program SPARK!)*,** MIT
Co-Lecturer: Yasmine Sami

2022 **Lecturer, *Introduction to Python Programming*, Peer Lecture Series,** MIT

2021 **Teaching Assistant, *Quantitative Methods Workshop*,** MIT

2020 **Tutorial, *UCF NLP*,** University of Central Florida

2019 **Python Lecturer, *LabX*,** University of Central Florida

2019-2020 **Undergraduate *EXCEL* Tutor,** University of Central Florida

2017 **Teaching Assistant and Lecturer, *Summer Institute @ UCF*,** University of Central Florida

Advisees

2022 **Ariana Richardson** (MSRP). *Currently*: Undergraduate at Georgia Institute of Technology

Invited Podcasts, Talks, and Workshops

2020 **Graduate School Preparation Podcast, *Elements of an Application for Funding*,** University of Central Florida

2020 **Undergraduate Research and Transfer Process Panel,** Valencia College

2019 **STEM Seminar Student Panel,** University of Central Florida

2018 **Mathematics Workshop,** Hialeah Gardens High School

2018 **Lecture on Computer Science and Engineering**, Orange County Preparatory Academy

Certification

2020 ***CITI Program***, **Social / Behavioral Research Investigators and Key Personnel**

Relevant Coursework

Computer Science + Statistics Courses
Object Oriented Programming, Algorithms, Robot Vision, Machine Learning*, Advanced Artificial Intelligence*, Senior Design, Statistical Theory I, Statistical Foundations for Data Science and Artificial Intelligence, Computer Understanding of Natural Language*, Information and Inference (6.437), Numerical Computing

Mathematics Courses
Calculus I-III, Ordinary Differential Equations, Linear Algebra, Probability, Random Processes and Applications, Introduction to Topology

Neuroscience + Cognitive Sciences courses
Language and Culture, Philosophy of Mind, Perception, Minds and Machines: Philosophy of Cognitive Science, Systems Neuroscience I (9.011), Computational Cognitive Science (9.660), Computational Cognitive Neuroscience (NEURO1401), Biology of the Inner Ear (SHBT 201)

* - Graduate Coursework (completed during undergrad)

** - In Progress

*** - To be completed

Languages

English Fluent

Spanish Fluent

Portuguese Basic