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	*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. (In Review). *Feature Coupling Across Populations of Spiking Neurons.* **PLOS Computational Biology.**

Abstracts, Conferences, and Presentations

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)

- Graduate Coursework (completed during undergrad)

*** - In Progress*

**** - To be completed*

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English	Fluent
Spanish	Fluent
Portuguese	Basic