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)**

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bj_mdn

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

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

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*

Languages

English Fluent

Spanish Fluent

Portuguese Basic