Jeremy Alejandro Diaz

Curriculum Vitae

State College, PA
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Education

2019 - now **M.S. + Ph.D.**, *Geography*, Pennsylvania State University
Advisor, Guido Cervone | **Lab**: Geoinformatics and Earth Observation Laboratory

2015 - 2019 **B.A.**, *Ecology & Evolutionary Biology*, University of Colorado Boulder
Minors, *Applied Mathematics*, *Geography* | **GPA**: 3.97 out of 4.00

Relevant Experience

2/2017 - 9/2019 **Deep Learning Intern** | *CU/CIRES Earth Lab Analytics Hub* | Boulder, CO
Primary duty was developing predictive deep learning models for natural hazard problems (tornadoes and wildfires) involving the fusion of large heterogeneous data sources (satellite sensors, social data sets, weather records, and social media).

8/2016 - 2/2017 **Undergraduate Student Assistant** | *National Snow and Ice Data Center (NSIDC)* | Boulder, CO
Digitally processed nearly a decade of unarchived 1960s satellite film and wrote NSIDC DAAC technical documents.

1/2016 - 8/2016 **Volunteer Research Assistant** | *CIRES Fierer Lab* | Boulder, CO
Developed, tested, and documented bioinformatics software to analyze microbial communities.

Papers

2019 **Predicting property damages from tornadoes with deep learning**, J. Diaz and M. Joseph. *Weather and Climate Extremes*, Volume 25. Also available at: *arXiv:1807.03456 [stat.ML]*.

Conferences

2019 **2019 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)**. *Application of U-Net Fully Convolutional Neural Network to Impervious Surface Segmentation in Urban Environment from High Resolution Satellite Imagery*. Joe McGlinchy (presenter), Brian Johnson, Brian Muller, Maxwell Joseph, and Jeremy Diaz. Yokohama, Japan. July 28 - August 2. Paper and poster.

2018 **12th Annual Earth System and Space Science Poster Conference**. *Predicting Wildfire Spread from SWIR Imagery using Convolutional Recurrent Neural Networks, Pt 1: Creating the Training Set*. Jeremy Diaz (presenter), Joseph McGlinchy, Maxwell Joseph, and Brian Johnson. Boulder, CO. November 30. Poster.

2018 **University of New Mexico McNair Scholars Research Conference**. *A neural model for Twitter user classification to support wildfire response*. Jeremy Diaz (presenter), Jennifer Balch, Lise St. Denis, and Maxwell Joseph. Albuquerque, NM. October 4-5. Poster.

Honors and Awards

2019 - 2020 **University Graduate Fellowship**, *Pennsylvania State University's Graduate School*

2019 - 2020 **Anne C. Wilson Graduate Fellowship**, *Pennsylvania State University's College of Earth and Mineral Sciences*

2019 - 2020 **Institute for CyberScience Scholar**, *Pennsylvania State University's Institute for CyberScience*

2018 - 2019 **McNair Scholar**, *University of Colorado Boulder, Ronald E. McNair Post-baccalaureate Achievement Program*.

2015 - 2019 **Dean's List (7 out of 8 semesters)**, *University of Colorado Boulder's College of Arts and Sciences*

2015 - 2019 **Presidential Scholar**, *University of Colorado Boulder's College of Arts and Sciences*

2015 **Commercial Bank Scholarship**, *Commercial Bank - Pineville, KY*

Workshops and Trainings

2018 **NASA ARSET: Monitoring Urban Floods Using Remote Sensing.** Webinar. July 25, Aug 1. Attendee.

2018 **NASA AIST Machine Learning Workshop.** Workshop. Boulder, CO. April 17-19. Attendee.

Teaching Experience

2018 **Content Developer / Instructor.** "Approachable Machine Learning". *CU/CIRES Earth Lab*. Introduced undergraduate-through-postdoc audience to Python, machine learning, Git, and Docker.

2017 - 2018 **Consultant**. "Data Visualization Office Hours". *University of Colorado Boulder, Center for Research Data & Digital Scholarship*. University-wide free consulting in data visualization and processing.

Public Engagement

2019 **From Twitter to Weather Satellites: Two Applications of Artificial Intelligence to Natural Disaster Science**. *Earth Lab Internship Blog*.

2018 **How You Can Use Deep Learning to Understand Disasters**. *Earth Lab Internship Blog*.