Vllgsbr2@illinois.edu

Javier Villegas Bravo

|  |  |  |
| --- | --- | --- |
| Education |  | **UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN** *B.S. in Atmospheric Science Fall 2015 – Spring 2018 Atmospheric Science Courses GPA: 3.79*  *M.S. in Atmospheric Science: Radiation and Satellite Remote Sensing Fall 2018 – Summer 2020 Advisor: Professor Larry Di Girolamo Cumulative GPA: 3.75* |
| Research |  | Cloud detection algorithm for satellite *(08/20/2018 – present)* Implementing operational cloud detection software for NASA’s MAIA satellite  Developing thresholds for algorithm and performing statistical analysis  Documenting software in algorithm theoretical basis document convolutional neural network to identify ice crystal shape *(08/20/2016 – 06/10/2017)* Developed training set and neural network to identify ice crystal shape in TensorFlow  Convolutional neural network can classify 8 crystal shapes with 78% accuracy  Undergraduate Researcher Neural network to classify cloud top phase from satellite *(01/20/2019 – 05/04/2019)* Principal Investigator for ATMS 411 Satellite Remote Sensing Class Project  Managed team to construct feature vector, training set data, algorithm and analysis  Led weekly class meetings to discuss deadlines and project progress NASA Goddard summer 2018 intern *(06/18/2018 – 08/08/2018)* Analyzed ground observation from weather radars and stations in Python  Assessed performance of different precipitation phase prediction algorithms  Research Intern; 40-50 hrs/week |
| programming/ Skills |  | Python [NumPy, Matplotlib, h5py, netCDF4, Pandas, SciPy, Tensorflow]  Linux  LaTeX  Fluent in English and Spanish |
| Advanced Electives |  | ATMS 411: Satellite Remote Sensing  ATMS 312: Atmospheric Dynamics 2  ATMS 405: Boundary Layer Dynamics  MATH 415: Applied Linear Algebra  CS 446: Machine Learning |
|  |  |  |
| awards/ Teaching Assistantships |  | University Achievement Scholarship – UIUC Fall 2015  Ogura Outstanding Undergraduate Research Award – UIUC Spring 2018  Ogura Outstanding Teaching Award – UIUC Spring 2019  Graduated with High Distinction—UIUC Spring 2018  ATMS 421 Earth Systems Modeling – UIUC Fall 2018  ATMS 305 Computing and Data Analysis – UIUC Fall 2018  ATMS 304 Radiative Transfer-Remote Sens – UIUC Spring 2019 |
| conferences |  | UIUC Undergraduate Research Symposium April 2017 Convolution Neural Network to Identify Ice Crystal Habit – Poster Midwest Student Conference on Atmospheric Research October 2017 Convolutional Neural Network to Identify Ice Crystal Habit – Talk AMS Student Conference in Austin, TX January 2018 Convolutional Neural Network to Identify Ice Crystal Habit - Poster NASA INTERN POSTER SESSION August 2018 Validation of Ground Observations for GPM Precipitation Phase – Poster Midwest Student Conference on Atmospheric Research October 2018 Validation of Ground Observations for GPM Precipitation Phase – Poster NASA MAIA SCIENCE TEAM MEETING IN PASADENA, CA June 2019 Operational Level 2 Cloud Mask product for NASA MAIA Satellite – Talk |
|  |  |  |