

MARINA VICENS-MIQUEL

Texas A&M University–Corpus Christi (TAMUCC)

Department of Computing Sciences

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EDUCATION

- Ph.D. Texas A&M University–Corpus Christi, expected 2024
Geospatial Computer Science Ph.D. Program Current GPA: **3.92**
- B.S. Texas A&M University–Corpus Christi, May 2020
Double Major: Computer Science, Mathematics
Magna Cum Laude

RESEARCH EXPERIENCE

- 2020 – Current NSF AI Institute: Artificial Intelligence for Environmental Sciences (AI2ES)
Graduate Research Assistant, Conrad Blucher Institute at TAMUCC
Research in Wet/Dry Shoreline GeoDetection using Deep Learning, and Water Level and Inundation Prediction using Deep Learning
- 2020 Research Intern at Lone Star UAS Center (LSUASC)
Research in UAV Damage Assessment using Deep Learning
- 2019 COSC Capstone Research Project
Constructed a Deep Learning Neural Network for Detecting Logo Images with Over 99% Accuracy

PUBLICATIONS

- 2022 **Vicens-Miquel, Marina**; Medrano, Antonio; Tissot, Philippe; Kamangir, Hamid; Starek, Michael. A Deep Learning Based Method to Delineate the Wet/Dry Shoreline and Compute its Elevation Using High-Resolution UAS Imagery. Remote Sensing MDPI. 14(23), 5990. DOI: [10.3390/rs14235990](https://doi.org/10.3390/rs14235990).
- 2022 **Vicens-Miquel, Marina**; Medrano, Antonio; Tissot, Philippe; Kamangir, Hamid; Starek, Michael. Deep Learning Automatic Detection of the Wet/Dry Shoreline at Fish Pass, Texas. 2022 International Geoscience and Remote Sensing Symposium (IGARSS), Kuala Lumpur, Malaysia, 17-22, 2022. DOI: [10.1109/IGARSS46834.2022.9884633](https://doi.org/10.1109/IGARSS46834.2022.9884633).
- 2018 Rahnemoonfar, Maryam; Robin, Murphy; **Vicens-Miquel, Marina**; Dobbs, Dugan; Adams, Ashton. Flooded Area Detection from UAV Images Based on Densely Connected Recurrent Neural Networks. International Geoscience and Remote Sensing Symposium (IGARSS), Valencia, Spain, July 22-27. DOI: [10.1109/IGARSS.2018.8517946](https://doi.org/10.1109/IGARSS.2018.8517946).

CONFERENCE PRESENTATIONS AND INVITED TALKS

- 2023 **Vicens-Miquel, Marina**; Tissot, Philippe; Medrano, Antonio. Physics-Based Deep Learning Architectures for Water Level Predictions. To be presented at

the American Association of Geographers Annual Meeting, Denver, CO, USA, March 23-27.

- 2023 Pilartes-Congo, Jose; Starek, Michael; **Vicens-Miquel, Marina**; Tissot, Philippe. Implementation of a ZED 2i Stereo Camera for Frequent and Localized Coastal Mapping. Oral presentation at the 2023 ASPRS Annual Conference at Geo Week, Denver, CO, USA, February 13-15.
- 2023 **Vicens-Miquel, Marina**; Medrano, Antonio; Tissot, Philippe; Kamangir, Hamid. Deep Learning Architectures for Water Level Predictions. Oral presentation at the American Meteorological Society Annual Meeting, Denver, CO, USA, January 8-12.
- 2023 White, Miranda; Tissot, Philippe; **Vicens-Miquel, Marina**; Hector, Marrero; Duff, Christian; Woodall, Jarett; King, Scott; Williams, John; Colburn, Brian. AI Ensemble Predictions for Cold Stunning Events in the Shallow Laguna Madre. Poster presentation at the American Meteorological Society Annual Meeting, Denver, CO, USA, January 8-12.
- 2023 Kastl, Matthew; Mahlke, Hugo; Pilartes-Congo, Jose; **Vicens-Miquel, Marina**; Salazar, Josh; Nguyen, Son; Tissot, Philippe. Pier Mounted Stereo Cameras to Measure Time Series of Total Water Levels. Poster presentation at the American Meteorological Society Annual Meeting, Denver, CO, USA, January 8-12.
- 2023 Duff, Christian; Woodall, Jarett; Tissot, Philippe; White, Miranda; **Vicens-Miquel, Marina**. Long Short-Term Memory Predictions of Water Temperature for Cold Stunning Events. Poster presentation at the American Meteorological Society Annual Meeting, Denver, CO, USA, January 8-12.
- 2023 Marines, Ashley; Ramirez, Dante; **Vicens-Miquel, Marina**; Tissot, Philippe. Comparison of Machine Learning Models for Prediction of Water Level at Tide Gauge. Poster presentation at the American Meteorological Society Annual Meeting, Denver, CO, USA, January 8-12.
- 2023 Millien, Judy; Edwards, Davey; Colburn, Katie; **Vicens-Miquel, Marina**; Pilartes-Congo, Jose; Stephenson, Savannah; Tissot, Philippe. Change Analysis of Time Series of Beach Digital Elevation Models and Shoreline Wet/Dry Lines. Poster presentation at the American Meteorological Society Annual Meeting, Denver, CO, USA, January 8-12.
- 2023 Colburn, Katie; Tissot, Philippe, **Vicens-Miquel, Marina**. Comparison of Human Delineated Ocean Beach Wet/Dry Shorelines with AI Predictions. Poster presentation at the American Meteorological Society Annual Meeting, Denver, CO, USA, January 8-12.
- 2023 Pilartes-Congo, Jose; **Vicens-Miquel, Marina**; Starek, Michael; Tissot, Philippe. Application of Close-Range Stereophotogrammetry for Predicting Coastal Inundation. Poster presentation at the American Meteorological Society Annual Meeting, Denver, CO, USA, January 8-12.

- 2022 **Vicens-Miquel, Marina**; Medrano, Antonio; Tissot, Philippe; Kamangir, Hamid; Starek, Michael. Generalized Model for Wet/Dry Shoreline Detection and Total Water Level Elevation Using Deep Learning. Poster presentation at the AGU Fall Meeting 2022, Chicago, IL, USA, December 12-16.
- 2022 Pilartes-Congo, Jose; **Vicens-Miquel, Marina**; Garcia, Isabel; Starek, Michael; Tissot, Philippe. Examining Different Photogrammetry and LiDAR Methodologies for Monitoring Coastal Elevation and Shoreline Changes. Poster presentation at the AGU Fall Meeting 2022, Chicago, IL, USA, December 12-16.
- 2022 **Vicens-Miquel, Marina**; Tissot, Philippe; Medrano, Antonio. Deep Learning Architectures to Improve Coastal Water Level Predictions. Oral presentation at the 2022 ASBPA National Coastal Conference, Long Beach, CA, USA, September 13-16.
- 2022 **Vicens-Miquel, Marina**; Medrano, Antonio; Tissot, Philippe; Kamangir, Hamid; Starek, Michael. Generalized Model for Wet/Dry Shoreline Detection Using Deep Learning. Poster presentation at the 2022 ASBPA National Coastal Conference, Long Beach, CA, USA, September 13-16.
- 2022 Pilartes-Congo, José; **Vicens-Miquel, Marina**; Kastl, Matthew; Starek, Michael; Tissot, Philippe. Monitoring Changes in Shoreline and Coastal Elevation Using a ZED 2i Stereo Camera. Poster presentation at the 2022 ASBPA National Coastal Conference, Long Beach, CA, USA, September 13-16.
- 2022 **Vicens-Miquel, Marina**; Medrano, Antonio; Tissot, Philippe; Kamangir, Hamid; Starek, Michael. Deep Learning Automatic Detection of the Wet/Dry Shoreline at Fish Pass, Texas. Oral presentation at the 2022 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Kuala Lumpur, Malaysia, July 17-22.
- 2022 **Vicens-Miquel, Marina**; Medrano, Antonio; Tissot, Philippe; Kamangir, Hamid; Starek, Michael. Deep Learning Generalized Model for Wet/Dry Shoreline Detection. Oral presentation at the 2022 Texas Coastal Symposium, Corpus Christi, TX, USA, April 14.
- 2022 **Vicens-Miquel, Marina**; Medrano, Antonio; Tissot, Philippe; Kamangir, Hamid; Starek, Michael. Georeferenced AI Wet/Dry Shoreline Detection using UAV Imagery. Oral presentation at the ESRI Imagery and Remote Sensing Summit, Virtual, March 31.
- 2022 **Vicens-Miquel, Marina**; Medrano, Antonio; Tissot, Philippe; Kamangir, Hamid; Starek, Michael. Automated Wet/Dry Shoreline Delineation Using Deep Learning. GeoAI and CyberGIS for Advancing Spatial Decision Making. Oral presentation at the American Association of Geographers Annual Meeting, New York, NY, USA, February 25 – March 1.
- 2022 **Vicens-Miquel, Marina**; Medrano, Antonio; Tissot, Philippe; Kamangir, Hamid; Starek, Michael. Deep Learning Wet/Dry Shoreline Detection Using

- UAV Imagery. Oral presentation at the American Meteorological Society Annual Meeting, Houston, TX, USA, January 23-27.
- 2021 **Vicens-Miquel, Marina**; Medrano, Antonio; Tissot, Philippe; Kamangir, Hamid; Starek, Michael. Wet/Dry Shoreline Detection Using Deep Learning. Oral presentation at the 2021 ASBPA National Coastal Conference, New Orleans, LA, USA, September 28 – October 1.
- 2018 Rahnemoonfar, Maryam; Robin, Murphy; **Vicens-Miquel, Marina**; Dobbs, Dugan; Adams, Ashton. Flooded Area Detection From UAV Images Based on Densely Connected Recurrent Neural Networks. Oral presentation at the 2018 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Valencia, Spain, July 22-27.

HONORS AND AWARDS

- 2022 – 2023 TAMUCC International Presidential Graduate Research Scholarship (\$4,000)
- 2022 – 2023 TAMUCC College of S&E Graduate Research Scholarship (\$1,000)
- 2022 – 2023 TAMUCC College of Engineering Graduate Research Scholarship (\$1,041.67)
- 2022 – 2023 TAMUCC Geospatial Engineering Graduate Research Scholarship (\$500)
- 2022 **AGU Outstanding Student Presentation Awards (OSPA) recipient (\$250)**
- 2021 – 2022 TAMUCC International Presidential Graduate Research Scholarship (\$4,000)
- 2021 – 2022 TAMUCC College of S&E Graduate Research Scholarship (\$2,000)
- 2021 – 2022 TAMUCC Geospatial Engineering Graduate Research Scholarship (\$600)
- 2020 – 2021 TAMUCC International Presidential Graduate Research Scholarship (\$3,141)
- 2020 – 2021 TAMUCC College of S&E Graduate Research Scholarship (\$1,000)
- 2020 – 2021 TAMUCC Division of Research and Innovation Student Research Competition Award (\$800)
- 2020 – 2021 TAMUCC Geospatial Engineering Graduate Research Scholarship (\$1,000)
- 2019 – 2020 Athletic Department 5th Year Scholarship (\$10,312.49)
- 2019 – 2020 Ruth A. Campbell School Endowed Scholarship (\$500)
- 2019 – 2020 Evening Post Pub Co.–KRIS TV Scholarship (\$500)
- 2019 – 2020 Exxon USA Found Scholarship (\$500)
- 2018 – 2019 M Collins UG Scholarship (\$8,400)
- 2015 – 2020 6-time Dean's List Recipient
- 2015 – 2020 8-time Athletic Department Academic Roll Recognition
- 2015 – 2018 3-time Scholar Student-Athlete