

Angelina S. Ibarra

PHD STUDENT · COMPUTER ENGINEERING

College Station, TX

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Research Interests

Machine Learning, Deep Learning, Computer Vision, Underwater Imagery and Technology

Education

Texas A&M University

PHD IN COMPUTER ENGINEERING

College Station, TX

Aug. 2025 - May 2029

- Advisor: Dr. Joshua Peeples

Texas A&M University

M.S. IN COMPUTER ENGINEERING

College Station, TX

Aug. 2023 - May 2025

The University of Texas at Austin

B.S. IN ELECTRICAL ENGINEERING

Austin, TX

Aug. 2019 - May 2023

- Certificate in Marine Science

Experience

Texas A&M University Advanced Vision and Learning Lab

GRADUATE RESEARCH ASSISTANT

College Station, TX

Mar. 2024 - Present

- Evaluate state-of-the-art self-supervised computer vision models and provide a benchmark for object detection in synthetic aperture radar (SAR) imagery
- Developed a new approach for improved anomaly detection in SAR imagery through more robust anomaly scores
- Disseminated results of research through publications, presentations, and reports to sponsors

Georgia Tech Research Institute

GEM FELLOW RESEARCH INTERN

Atlanta, GA

May 2025 - Aug. 2025

- Programmed software to interface with a frequency counter, record frequency measurements over time, and produce Allan Variance measurements and plots
- Measured the frequency stability of various clocks and oscillators in the lab
- Created a remote server using the Labscript suite to allow multiple machines to interface with a wavemeter

Oceaneering

SOFTWARE ENGINEERING INTERN

Hanover, MD

May 2024 - Aug. 2024

- Evaluated various message brokers to be used for communication between containerized C# applications
- Created cookiecutter templates to automate the creation of the software needed to containerize C# applications and integrated Serilog to provide logging for microservices in a Kubernetes cluster

Applied Research Laboratories

STUDENT TECHNICIAN

Austin, TX

Jan. 2022 - Apr. 2023

- Studied schematics and PCBs for transponders to be used on an underwater autonomous vehicle (UAV)
- Interfaced said transponder to a new microcontroller to be used on the hardware stack for the UAV

The University of Texas at Austin Intelligent Environments Laboratory

UNDERGRADUATE RESEARCH ASSISTANT

Austin, TX

May 2021 - May 2022

- Designed a PCB and the circuitry for various air quality sensors for an indoor air quality monitoring system
- Developed software to visualize the collected sensor data such as CO₂, oxygen, and temperature over the course of several weeks and in various environments

Publications

CONFERENCE PROCEEDINGS

- **A. Ibarra** and J. Peebles, "Patch distribution modeling framework adaptive cosine estimator (PaDiM-ACE) for anomaly detection and localization in synthetic aperture radar imagery," in *Algorithms for Synthetic Aperture Radar Imagery XXXII*, 13456-4, SPIE, 2025, doi: 10.1117/12.3052541. 
- L. Chauvin, S. Gupta, **A. Ibarra**, and J. Peebles, "Benchmarking suite for synthetic aperture radar imagery anomaly detection (SARIAD) algorithms," in *Algorithms for Synthetic Aperture Radar Imagery XXXII*, 13456-3, SPIE, 2025, doi: 10.1117/12.3052519. 

JOURNAL ARTICLES

- H. Fritz, S. Bastami, C. Lin, K. Nweye, T. To, L. Chen, D. Le, **A. Ibarra**, W. Zhang, J. Park, W. Waites, M. Tang, P. Misztal, A. Novoselac, E. Thomaz, K. Kinney, Z. Nagy, "Design, fabrication, and calibration of the Building Environment and Occupancy (BEVO) Beacon: A rapidly-deployable and affordable indoor environmental quality monitor," in *Building and Environment*, Vol. 222, 2022, 109432, ISSN 0360-1323, doi: 10.1016/j.buildenv.2022.109432. 

Presentations

ORAL PRESENTATIONS

- "Patch distribution modeling framework adaptive cosine estimator (PaDiM-ACE) for anomaly detection and localization in synthetic aperture radar imagery," in *Algorithms for Synthetic Aperture Radar Imagery XXXII*, International Society for Optics and Photonics (SPIE), Orlando, FL, April 2025. 

POSTER PRESENTATIONS

- "SAR-SSL: A Comprehensive Benchmark for Self-Supervised Object Detection in Synthetic Aperture Radar Imagery," in *Texas A&M University ECE Fall Graduate Poster Event*, College Station, TX, November 2025. 
- "Patch distribution modeling framework adaptive cosine estimator (PaDiM-ACE) for anomaly detection and localization in synthetic aperture radar imagery," in *Algorithms for Synthetic Aperture Radar Imagery XXXII*, International Society for Optics and Photonics (SPIE), Orlando, FL, April 2025. 

Awards & Activities

2025-pres. **GEM Fellowship Recipient**, Sponsored by Texas A&M University and Georgia Tech Research Institute
2022-23 **President**, Kappa Delta Chi Sorority Inc.

College Station, TX
Austin, TX