

Ezequiel Juarez Garcia

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EDUCATION

- University of Florida**, Gainesville, FL, USA Aug 2021 – Dec 2025
Ph.D. in Electrical and Computer Engineering
Dissertation: “System-Wide Uncertainty Quantification and Information Fusion Using Interpretable Machine Learning for Informed Decision-Making”
Focus: Information Fusion, Interpretable Machine Learning, Uncertainty Quantification
Committee Chair (Advisor): Nicholas J. Napoli
Committee Members: Joel B. Harley, Sanjeev J. Koppal, Mostafa Reisi, and Alina Zare (former)
- University of Florida**, Gainesville, FL, USA Aug 2018 – Aug 2021
Master of Science in Electrical and Computer Engineering
Focus: Simultaneous Localization and Mapping, Underwater Robotics, Control Theory
Advisor: Kamran Mohseni
- Florida Polytechnic University**, Lakeland, FL, USA Aug 2014 – May 2018
Bachelor of Science in Electrical Engineering
Focus: Control Theory, Analog Circuit Design

WORK EXPERIENCE

- Graduate Research Assistant, Human Informatics and Predictive Performance Optimization (HIPPO) Laboratory, *University of Florida* May 2021 – Dec 2025
- Graduate Research Assistant, Mohseni Research Group, *University of Florida* May 2018 – Dec 2020
- Undergraduate Research Assistant, Florida Department of Transportation Project, *Florida Polytechnic University* May 2017 – May 2018
- Undergraduate Research Assistant, Insite Project, *Florida Polytechnic University* May 2016 – Apr 2017
- Educational Assistant, Circuits Laboratory, *Florida Polytechnic University* Aug 2017 – May 2018
- Information Technology Student Assistant, *Hendry County District Schools* Summer 2014, 2015

TEACHING EXPERIENCE

- Digital Communication Systems, Teaching assistant, *Florida Polytechnic University* Spring 2017
- Circuits I Laboratory, Teaching assistant, *Florida Polytechnic University* Aug 2017 – May 2018

RESEARCH INTERESTS

Areas of interest:

- Interpretable machine learning
- Explainable artificial intelligence
- Information fusion
- Uncertainty quantification
- Signal processing
- Human-machine teaming
- Autonomous systems/robots

Applications of interest:

- Wearable technology
- Safety-critical system assurance
- Preventative health
- Predictive maintenance operations
- Financial planning and risk

PUBLICATIONS

Journals

- [J2] **E. Juarez Garcia**, C. L. Stephens, and N. J. Napoli, "LUMINA: Locally-Interpretable Uncertainty Mapping for Information Fusion and Adaptive Assignments for Actionable Decision Support," 2026.
(*Under Review in Expert Systems with Applications Journal*)
- [J1] N. J. Napoli, C. L. Stephens, K. D. Kennedy, L. E. Barnes, **E. Juarez Garcia**, and A. R. Harrivel, "NAPS Fusion: A framework to overcome experimental data limitations to predict human performance and cognitive task outcomes," *Information Fusion*, vol. 91, pp. 15–30, 2023.
(*Impact Factor: 18*)

Conferences

- [C8] J. L. Prinzel, **E. Juarez Garcia**, and N. J. Napoli, "Hierarchical Sensor Fusion Using Dempster-Shafer Theory for Anomaly Detection in Aviation," in *AIAA SciTech 2026 Forum*, 2026, p. 427.
- [C7] **E. Juarez Garcia**, C. L. Stephens, and N. J. Napoli, "Understanding the Impact of Unobservable Variables on the Performance of Predictive Models: The Need for Feature Space Partitioning and Fusion," in *AIAA SciTech 2025 Forum*, 2025, p. 435.
(*Best Student Paper Award*)
- [C6] **E. Juarez Garcia**, S. L. Beres, M. L. Mulvihill, C. Stephens, and N. J. Napoli, "Multiclass Flight Anomaly Detection Using Dempster-Shafer Theoretic Sensor Fusion," in *AIAA SciTech 2024 Forum*, 2024, p. 2615.
- [C5] **E. Juarez Garcia**, V. R. Rodrigues, M. Fazli, L. E. Barnes, and N. J. Napoli, "Exercise and Sedentary Activity Recognition Using Late Fusion: Building Adaptable Uncertain Models," in *2023 26th International Conference on Information Fusion (FUSION)*, 2023, pp. 1–8.
- [C4] **E. Juarez Garcia**, M. L. Mulvihill, M. S. Kharab, C. L. Stephens, and N. J. Napoli, "Capturing Multivariate Time Series Interactions to Detect High-Risk Instability During Approach," in *AIAA AVIATION 2023 Forum*, 2023, p. 3548.
- [C3] **E. Juarez Garcia**, C. Stephens, and N. J. Napoli, "Detecting High-Risk Anomalies in Aircraft Dynamics Through Entropic Analysis of Time Series Data," in *AIAA AVIATION 2022 Forum*, 2022, p. 3257.
- [C2] **E. Juarez Garcia**, D. P. Ferguson, and N. J. Napoli, "Estimating Core Body Temperature Under Extreme Environments Using Kalman Filtering," in *AIAA SciTech 2022 Forum*, 2022, p. 1271.
- [C1] C. Drake, H. Chintakunta, C. Coughlin, **E. Juarez Garcia**, S. Hoos, K. Ardrey, P. Luckey, and A. Erickson, "A Sensor for Visibility Determination under Fog Conditions," in *Conference on Recent Advances in Robotics*, 2018, pp. 1–5.

Dissertation

- [D1] **E. Juarez Garcia**, "System-Wide Uncertainty Quantification and Information Fusion Using Interpretable Machine Learning for Informed Decision-Making," Ph.D. Thesis, Herbert Wertheim College of Engineering, University of Florida, Gainesville, FL, USA, 2025.

Magazines

- [M1] **E. Juarez Garcia**, A. Raz, and N. J. Napoli, "Expansion of sensor networks continues to improve military security and civilian mobility," vol. 61, no. 12. *AIAA Aerospace America*, p. 49, 2023.

Posters and Abstracts

- [P2] M. L. Mulvihill, J. Srigiri, M. S. Kharab, **E. Juarez Garcia**, and N. J. Napoli, "Modeling Multimodal Time Series Data for Approach and Landing of Aircraft," in *University of Florida's Spring Undergraduate Research Symposium*, 2024.
- [P1] E. Vickers, P. Luckey, **E. Juarez Garcia**, J. Prine, R. Integlia, and H. Chintakunta, "Environmental Monitoring with Wireless Sensor Networks," in *Bulletin of the American Physical Society's APS National Mentoring Community Conference*, 2016.

FELLOWSHIPS

L3Harris Corporation Student Fellowship	2021–2022
Wilson and Marie Collins Endowment Graduate Fellowship, Department of Electrical and Computer Engineering, University of Florida	2018, 2022
Graduate School Preeminence Award Fellowship, University of Florida	2018–2021

HONORS AND AWARDS

AIAA 2025 SciTech Sensor Systems and Information Fusion Best Student Paper	2026
Florida Polytechnic University Summa Cum Laude Graduate Honor	2018
Florida Polytechnic University's Inaugural Class Scholarship	2014

PATENTS AND INVENTION DISCLOSURES

E. Juarez Garcia, C. L. Stephens, and N. J. Napoli, "Method for Risk Precursor Identification in Commercial Aviation Terminal Area Operations." NASA Case Number: LAR-20590-1. (<i>Invention Disclosure</i>)	2025
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PROFESSIONAL SOCIETIES AND LEADERSHIP

American Institute of Aeronautics and Astronautics (AIAA), <i>Young Professional</i>	Jun 2021 – Present
Institute of Electrical and Electronics Engineers (IEEE), <i>Student Member</i>	May 2023 – Present
IEEE Aerospace and Electronic Systems Society (AESS), <i>Student Member</i>	May 2023 – Present

ACADEMIC SERVICE

Elsevier's Information Fusion Journal, <i>Peer Reviewer</i>	2026 – Present
American Institute of Aeronautics and Astronautics' (AIAA) SciTech Forum and AVIATION Forum, <i>Peer Reviewer</i>	2024 – Present
Multidisciplinary Digital Publishing Institute's (MDPI) Aerospace Journal, <i>Peer Reviewer</i>	2023
Springer's Soft Computing, <i>Peer Reviewer</i>	2023

MENTORING

Undergraduate Students

Markus L. Mulvihill, 2022–2024

- *Project/Interests:* Kalman filtering and machine learning
- *Department:* Electrical and Computer Engineering, University of Florida
- *Outcomes:*
 - Pursuing M.S. at KTH Royal Institute of Technology
 - 2 AIAA conference papers
 - 2 poster presentations

Jessie Srigiri, Spring 2024

- *Project/Interests:* Machine learning and data analysis
- *Department:* Electrical and Computer Engineering, University of Florida
- *Outcomes:*
 - Graduate Test Engineer at Boston Scientific

Mark S. Kharab, 2022–2023

- *Project/Interests:* Data fusion and flight dynamics
- *Department:* Electrical and Computer Engineering, University of Florida
- *Outcomes:*
 - Technical Sales Associate at Texas Instruments
 - 1 AIAA conference paper
 - 1 poster presentation

Luke Saleh, Fall 2024

- *Project/Interests:* Machine learning and information fusion
- *Department:* Electrical and Computer Engineering, University of Florida
- *Outcomes:*

Curriculum Vitae

Juarez Garcia, Ezequiel

- 1 poster presentation

- Successful team completion of senior design project
- Master of science

Joshua L. Prinzel, Summer & Fall 2025

- *Project/Interests:* Information fusion and machine learning
- *Department:* Data Science, Christopher Newport University
- *Outcomes:*
 - 1 AIAA conference paper
 - Pursuing M.S. at Georgia Tech

Graduate Students

Vishwath Ramachandran (MS), Spring 2025

- *Project/Interests:* Anomaly prediction and machine learning
- *Department:* Computer & Information Science & Engineering, University of Florida
- *Outcomes:*
 - Internship at Capgemini

Varun Aiyaswamy Kannan (MS), Spring 2025

- *Project/Interests:* Classification using deep learning
- *Department:* Computer & Information Science & Engineering, University of Florida
- *Outcomes:*
 - Internship at the University of Florida College of Medicine's Quality and Patient Safety Initiative (QPSi)