

Joseph A. Rivera

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Education

University of Central Florida

Bachelor of Science in Electrical Engineering, Accelerated B.S. – M.S Program

B.S. May 2020

GPA: 3.52

Graduate Coursework: Biomedical Nanotechnology, FPGA Design, and Linear Systems Theory

Awards: President's Honor Roll Certificate Fall 2017, Dean's List Recipient (6 Semesters)

Professional Experience

University of Central Florida / Lockheed Martin

February 2018 - Present

College Work Experience Program Student- Missiles and Fire Control

Part-time Systems Engineering student in Lockheed Martin's Applied Research department tasked to an Internal Research and Development (IRAD) effort to explore applications of deep learning across all LM business areas. Supporting DARPA, US Army, and corporate programs with custom deep learning solutions for drones, ordinance, and ground systems. Prototyping object detectors and classifiers for deployment on embedded systems. Conducting trade studies on data pre-processing, network architectures, and hyperparameter tuning. Creating technical presentations for management.

Security Clearance: OPM Secret (T3) – August 2018 Investigating Agency: U.S. Office of Personnel Management.

Granting Agency: Department of Defense Central Adjudication Facility.

EXCEL Undergraduate Research Experience

December 2017 – July 2018

Research Assistant, Daoji Li, Ph.D.

Completed two seminar courses on undergraduate research, wrote a technical report for Transfer Learning a Convolutional Neural Network classifier from color to Long Wave Infrared images. Developed and presented a cybersecurity research poster: *The Spectre Attacks: An Analysis of Responses Based on Security and CPU Performance* at UCF's Showcase of Undergraduate Research Excellence. Awarded \$1500 from research stipends.

Center for Research in Computer Vision

October 2017 – January 2018

Research Assistant, Mohamed Elfeki Ph.D. Candidate

Created a dataset to train a Long Short Term Memory – Recurrent Neural Network on concatenated viewpoints and learned about RNN/CNN architectures and novel implementations. Edited multiple drafts of *Multi-View Egocentric Video Summarization* (<https://arxiv.org/pdf/1812.00108.pdf>).

University Programs & Organizations

Knights of Distinction Program

September 2019 – Present

Tracking milestones towards leadership, citizenship, high-impact learning, and professional development, while creating an E-portfolio of projects and accomplishments. Member of the Student Advisory Council.

Tau Beta Pi - The Engineering Honor Society

January 2019 – Present

Inductee attending professional development workshops, engineering networking events, and monthly chapter meetings.

Institute of Electrical and Electronics Engineers - Eta Kappa Nu

January 2019 – Present

Inductee working with student leadership in IEEE's Electrical Engineering honor society on event planning, conventions, and peer mentoring for underclassmen.

Institute of Electrical and Electronics Engineers at UCF

August 2017 – August 2018

Assistant Treasurer, then Treasurer of IEEE at UCF. Managed \$3000 yearly, planned and budgeted events like IEEE Southeast Con through Student Government Association financial allocations and corporate sponsorship. Supervised club branches and projects, hosted Arduino workshops, general body meetings, and panel discussions.

Technical Skills

Programming Languages: MATLAB with Deep Learning / Computer Vision Toolboxes, C, Python with Keras and TensorFlow, Verilog with BASYS3 FPGA, Windows, Linux.

Technology & Research: Convolutional Neural Networks, Nvidia Jetson Developer Kits, TI Launchpad MSP430, Explainable AI interfaces (XAI), object detection, Pixel-level segmentation.