

James Simmons

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(407) 701-3245

Work Experience

Algorithms/AI Engineer II - *Elbit Systems of America, June 2023 - Present*

- Developed algorithm to project image data from one camera into the pixel space of another camera and to fuse the resulting overlaid images based on depth to target and camera orientation data derived from the accelerometer of an inertial measurement unit
- Designed and utilized custom framework for GPU acceleration to greatly increase framerate of camera projection and image fusion tasks
- Tuned computer vision model for target detection and recognition
- Developed motion detection filter and Kalman tracking filters to denoise target detections
- Conducted trade study for targeting system compliance with new GCIA standards
- Devised comprehensive stereo camera calibration suite to assist projection task and stereo disparity depth sensing
- Created and maintained modular algorithm pipeline framework for AI and computer vision
- Met with customers for critical direct data collection on a secure site
- Maintained extensive and detailed documentation on all projects

Algorithms Engineering Intern - *Elbit Systems of America, July 2022 - June 2023*

- Employed hyperspectral anomaly detection techniques to identify small fast-moving targets amid considerable ambient motion
- Developed system to merge and deduplicate detections produced from multiple ML models
- Utilized ensembling techniques to improve detection scale and accuracy

Junior Security Analyst - *Fortress Information Security, May 2019 - August 2019*

- Virtual Security Operations Center (VSOC)
- Performed monthly corporate security audits
- Generated status reports on newly announced security vulnerabilities

Skills and Qualifications

Programming Languages, Libraries, Frameworks, and Tools

- Python, C, OpenGL Shader Language, Bash
- PyTorch, Tensorflow, Numpy, Pandas, Tkinter, PyPlot
- Docker, Git, GitLab, Vim, Linux

Topics

- LLMs, CNNs, LSTM, CUDA, Computer Vision, Recommender Systems
- Linux System Administration, Data Analysis, Model Based Systems Engineering, Hyperspectral Anomaly Detection, Camera Characterization, GPU Compute Shaders

Education

MS, Computer Science - *University of Central Florida, January 2022 - May 2023*

- 4.0 GPA
- Focus Area: Artificial Intelligence and Machine Learning
- Course projects in computer vision and natural language processing

BS, Computer Science - *University of Central Florida, August 2018 - December 2021*

- Summa Cum Laude (4.0 GPA)
- Minor in Mathematics
- Burnett Honors College

Extra-Curricular - *University of Central Florida*

- Secretary, HACK@UCF Cybersecurity Club, 1 year
- Competitor, Collegiate Cyber Defense Competition team, 2 years
 - Business Specialist, National CCDC 2020: 2nd Place
 - Business Specialist, At-Large CCDC 2020: 1st Place
 - Business Specialist, NIATEC Invitational CCDC 2019: 1st Place
 - Linux Specialist, UBNetDef Lockdown 2019: 2nd Place