

Jarek Reynolds

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Experience

Senior Systems Engineer — BAE Systems Jan 2026 – present
Develop RF mission systems for space-based architectures. Build custom tools and algorithms to evaluate mission performance, guide architecture decisions, and refine system requirements.

Teaching Assistant — Neural Networks and Deep Learning — CU Boulder Jan 2026 – present
Assist students in understanding multi-layer neural network architectures, backpropagation, gradient-based optimization, regularization, and training and evaluating models on visual, textual, and audio data.

Research Assistant — Image and Video Computing Group, CU Boulder Jan 2022 – present
Led by Dr. Danna Gurari, the IVC Group develops computing systems that enable and accelerate the analysis of visual information as a critical precursor to innovations that can benefit society at large.

Teaching Assistant — Operating Systems — CU Boulder Jan 2022 – present
Assist students in understanding user and kernel space, system calls, device drivers, multithreading, memory management, page replacement algorithms, and disk scheduling.

Software Engineer & Assembly Technician — SHOTOVER Systems Jan 2021 – Dec 2021
Software engineer, sensor operator, assembly technician, and technical writer. Implemented software features, assembled and tested mission equipment, and streamlined documentation.

Field Service Engineer — Sierra Nevada Corporation 2012 – 2014
Mission commander aboard airborne intelligence platforms. Disseminated time-sensitive, actionable intelligence to joint special operations engaged in sensitive classified operations.

Airborne Cryptologic Linguist & Tactical Systems Operator — United States Air Force 2004 – 2010
Multi-lingual operator and instructor of airborne intelligence systems. Supported joint special operations with high-value targeting data throughout Iraq and Afghanistan.

Education

Ph.D., Computer Science — University of Colorado Boulder 2023 – present
Advisor: Dr. Danna Gurari · Co-Advisor: Dr. Jeffrey R. Hebert

M.S., Computer Science — University of Colorado Boulder 2026

B.S., Computer Science — University of Colorado Boulder 2023

M.A., Conflict Resolution — University of Denver 2016

B.S., International Security & Intelligence Studies — Bellevue University 2014

Diploma, Persian Farsi — Defense Language Institute Foreign Language Center 2005

Selected Coursework: Advanced Topics in Computer Vision, Neural Networks & Deep Learning, Natural Language Processing, Design & Analysis of Algorithms, Datacenter Computing, Probability for Computer Science, Tangible & Mixed Reality

Publications

1. **J. Reynolds**, C. K. Nagesh, D. Gurari. “Salient Object Detection for Images Taken by People with Vision Impairments.” *WACV*, 2024.
2. J. Myers-Dean, **J. Reynolds**, B. Price, Y. Fan, D. Gurari. “SPIN: Hierarchical Segmentation with Subpart Granularity in Natural Images.” *ECCV*, 2024.
3. S. Pandey, J. Myers-Dean, **J. Reynolds**, D. Gurari. “Interpreting COVID Lateral Flow Tests’ Results with Foundation Models.” *CVPRW*, 2024.
4. N. Prasad, **J. Reynolds**, N. Karsanbhai, T. Sharma, et al. “Hierarchical Instance Tracking to Balance Privacy Preservation with Accessible Information.” *WACV*, 2026.

Skills

Languages Python, Go, Swift, C/C++, Ruby, JavaScript, TypeScript, L^AT_EX, Bash
Frameworks PyTorch, Django, Rails, React, NumPy, SciPy, Pandas, Polars, Matplotlib, OpenXR
Tools Git, Linux, Docker, AWS (S3, EC2), PostgreSQL, Redis, Celery, MTurk, Kamal
Domains Computer Vision, Deep Learning, Saliency Prediction, Dataset Design, Annotation Pipelines, XR
Spoken English (native), Persian Farsi (professional working), Persian Dari (limited working)
Intelligence SIGINT, COMINT, IMINT, ISR Operations