

Neelima Prasad

Ph.D. Student, University of Colorado Boulder

 [Website](#)  neelima.prasad@colorado.edu  [LinkedIn](#)

Education

Sept. 2023 Present	University of Colorado, Boulder Ph.D., Computer Science, <i>Advisor: Dr. Danna Gurari</i>	Boulder, CO
Sept. 2023 May 2025	University of Colorado, Boulder M.S., Computer Science, <i>Advisor: Dr. Danna Gurari</i>	Boulder, CO
Sept. 2018 Dec 2021	University of California, San Diego B.S., Mathematics & Computer Science	San Diego, CA

Work Experience

Jan. 2026 May 2026	LightTable <i>AI Engineering & Research Intern</i> Built AI-powered workflows for an architecture and construction platform Evaluated LLM's abilities to analyze architectural drawings, specs and project documents Created architecture datasets and fine-tuning RT-DETR models to improve models' accuracy Used Modal, Supabase, Pydantic Logfire, Pytorch	Denver, CO
Sept. 2023 Present	University of Colorado Boulder Image and Video Computing Group <i>Graduate Research Assistant</i> Developing computer vision systems that can segment/track objects and their constituent parts Research interests: computer vision, NLP, dataset creation, deep learning	Boulder, CO
Mar. 2022 Jul 2023	Naval Air Systems Command (NAVAIR) <i>Full Time Computer Scientist Secret Level Clearance Obtained</i> <u>Project War-Gaming</u> : Created many v. many scenarios using simulation software (C#). Implemented deep reinforcement learning techniques to solve these scenarios by determining the optimal path for a protected entity. Developed algorithms to run simulations simultaneously and generate plots to illustrate the algorithms' success. <u>Software Engineer for Simulation Developers</u> : Created a working database using SQL and SQLite to store radar and emitter parameters used for simulation development. Designed the user interface of the database using HTML, jQuery, and CSS <u>Tasking- Radar Engineer/Operator</u> : Operated and calibrated radar simulator systems used for electronic warfare countermeasure scoring. Regularly used spectrum analyzers and oscilloscopes	Point Mugu, CA
Jun. 2018 Dec. 2021	Los Alamos National Laboratory <i>Summer Research Intern Mentors: Dr. Nicole Lloyd-Ronning and Dr. Nathan Lemons</i> <u>Project – Cryptography</u> : Evaluated lattice-based post-quantum cryptography signature schemes Learned and use techniques from homomorphic computation to develop those schemes which extend quantum key distribution mechanisms to allow encryption, decryption, and signature verification on a global level <u>Project: Network Analysis</u> : Worked on the statistical, graph theoretic and algorithmic analysis of authentication events on large local area networks. Wrote algorithms that implemented various network and time series analysis metrics to analyze datasets. Explored new visualization approaches in understanding temporal network dynamics <u>Project: Astrophysics</u> : Analyzed Gamma-ray burst data from LIGO using MatLab. Co-authored an academic paper about speculating certain parameters from the data analyzed	Los Alamos, NM

Research Projects

PhD research projects at CU Boulder IVC research group

Hierarchical Instance Tracking

First Author and student lead of this computer vision project. Created and annotated a video dataset for the task of Video Instance Segmentation, and conducted extensive evaluation on several state-of-the-art segmentation and tracking models. Paper was accepted at Winter Conference on Applications in Computer Vision (WACV)

Part Instance Segmentation

Working on training part instance segmentation models without large scale manually annotated datasets by leveraging alternate supervision paradigms. Created and annotated an image dataset from self curated web scraped images. Fine-tuned and evaluated several state-of-the-art part image segmentation models on custom dataset.

Focus Ambiguity in VQA

Student Advisor and lead of this project. Researching efforts of identifying and solving ambiguity in visual question answering, since sometimes language in questions can often be ambiguous. Research specifically focuses on the blind and low vision community interacting with AI systems and solving ambiguity in both images and video.

Publications

Hierarchical Instance Tracking to Balance Privacy Preservation with Accessible Information

Neelima Prasad, Jarek Reynolds, Neel Karsanbhai, Tanusree Sharma, Lotus Zhang, Abigale Stangl, Yang Wang, Leah Findlater, and Danna Gurari. IEEE Winter Conference on Applications in Computer Vision (WACV), March 2026.

Constraints on Gamma-Ray Burst Inner Engines in a Blandford-Znajek Framework

Nicole M. Lloyd-Ronning, Chris Fryer, Jonah Miller, Neelima Prasad, Chris Torres, Phillip Martin
Oxford Academic, Feb 2019

Teaching Positions

Teaching Assistant for Data Structures, 3 semesters

Teaching Assistant for Deep Learning and Neural Networks, 1 semester

Awards

Conference Support and Publication Grant	2025
---	------

Awarded competitive grant from Department of Computer Science at CU Boulder

SMART Scholarship	2023
--------------------------	------

Awarded DoD SMART Scholarship for graduate studies in STEM, did not accept offer

Incentive Award	2022
------------------------	------

Division award for my work on my effort with the war-gaming at NAVAIR

Provost Honors – 5 quarters	2021
------------------------------------	------

Awarded to students each quarter for an exemplary term undergrad GPA at UCSD

Skills

Programming Languages

Python, C++, Java, C, C#, MATLAB, R, ARM Assembly, JavaScript, Swift, Julia, Linux

Programming Background

Frontend (*ReactJS, jQuery*)

Built and maintained a database (*SQL, SQLite, Supabase, PostgreSQL*)

AI Tools: (*Pytorch, TensorFlow, Hugging Face Transformers, Cursor, Claude Code*)

Python Tools: pandas, NumPy, OpenCV, Jupyter Lab

Relevant Graduate Coursework

Computer Vision, Neuro-Symbolic Approaches to NLP, Linear programming, Machine Learning, Object Oriented Analysis and Design, AI Engineering

Academic Service

Organizer at VizWiz Grand Challenge Workshop at CVPR Conference (2025, 2026)