

# Nicholas Kashani Motlagh

Email: kashanimotlagh.1@osu.edu — Phone: +1 (614)-886-1412

LinkedIn: linkedin.com/in/nicholas-kashani-motlagh — Website: nmotlagh.github.io

## PROFILE SUMMARY

---

Ph.D. student in Computer Science with expertise in machine learning, focusing on computer vision and recently branching into language modeling and machine translation. Adept at developing innovative solutions for multifaceted challenges. Seeking a research internship to advance and apply my AI skills across both visual and linguistic domains.

## EDUCATION

---

### Ohio State University

*Ph.D. in Computer Science & Engineering (AI Major)*

Minors: Mathematics, High-Performance Computing

### Ohio State University

*B.S. in Computer Science & Engineering with Honors*

Minor: Mathematics

Scholarships: Maximus, Ten-Hai Lai, Ansel, Name and Seal.

Columbus, OH

Aug 2021 - Present

GPA: 3.90

Columbus, OH

Aug 2017 - May 2021

GPA: 3.86

## EXPERIENCE

---

### Ohio State University

*Graduate Teaching Associate, CSE 5523 Machine Learning*

Columbus, OH

August 2023 - Present

- Provided academic support for a Machine Learning course with 80 students, enhancing learning outcomes.

*Graduate Research Associate, Computer Vision Laboratory*

August 2021 - Present

- Secured Best Paper at ISVC 2022 for pioneering a novel reject option classification method for uncalibrated models, optimizing the accuracy of selected predictions subject to a natural constraint on rejected predictions.
- Developed an end-to-end framework for naturally constrained reject option classification, enhancing accuracy and reliability over post-processing methods.
- Recently enhanced our Reject Option Beam Search algorithm for Neural Machine Translation, matching tuned baseline performance without the computational overhead of tuning.

### University of Dayton (sponsored by Air Force Research Laboratory)

*Graduate Research Intern* (Mentors: Dr. Matthew Scherrek & Dr. Tim Anderson)

Dayton, OH

Summer 2023

- Proposed 'Reject Option Beam Search' in Neural Machine Translation, targeting quality enhancement in weak models at large beam widths.

### Wright State University (sponsored by Air Force Research Laboratory)

*Graduate Research Intern* (Mentors: Dr. Matthew Scherrek & Dr. Tim Anderson)

Dayton, OH

Summer 2022

- Pioneered end-to-end training for Reject Option Classification, focusing on rejected regions (U.S. CUI).

*Undergraduate Research Intern* (Mentor: Dr. Roman Ilin)

Summer 2020/2021

- Developed a semi-automated system for satellite imagery collection and temporal classification (ICCV 2021 Workshop).
- Created an ensemble distillation approach to improve model calibration on ambiguous instances (U.S. CUI).

### Concordian University (sponsored by SII Canada)

*Undergraduate Research Intern* (Mentor: Dr. Khashayar Khorasani)

Montreal, Canada

Summer 2019

- Spearheaded a project on real-time UAV obstacle avoidance using deep learning and single-image analysis (NDA).

## PUBLICATIONS

---

**N. Kashani Motlagh**, J. Davis, T. Anderson, J. Gwinnup

*"Naturally Constrained Reject Option Classification"*

*Machine Vision and Applications: Advances in Visual Computing, 2023 (in review)*

**N. Kashani Motlagh**, J. Davis, T. Anderson, J. Gwinnup

*"Learning When to Say 'I Don't Know'"*

*International Symposium on Visual Computing, October 2022 - Springer Best Paper Award*

**N. Kashani Motlagh**, A. Radhakrishnan, J. Davis, R. Ilin

*"A Framework for Semi-automatic Collection of Temporal Satellite Imagery for Analysis of Dynamic Regions"*

*Learning to Understand Aerial Images (ICCV Workshop), October 2021*

## TECHNICAL SKILLS

---

**Languages & Tools:** Python, Pytorch, Huggingface, Bash, Git, Singularity containers, Slurm job scheduler

## PROFESSIONAL SERVICE

---

**Volunteer:** HackOH/O '23; **Reviewer:** ICCV '23, CVPR '23, ECCV '22, CVPR '22