

Elahe Vahdani

Ph.D. in Computer Science (Graduated in Fall 2023)

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New York, NY | Permanent Resident of the USA

SUMMARY OF PH.D. RESEARCH

Publication and Collaboration

- Authored 9 peer-reviewed publications in leading AI conferences and journals (CVPR, CVPRW, TPAMI) with first-author status in 7 papers including equal contribution.

Selected Computer Vision Research Projects

- Advanced the state-of-the-art in the following three computer vision tasks.
 - **Action Detection:** 5% mAP improvement over limited-supervision methods on THUMOS'14 dataset.
 - **Multimodal Object Retrieval:** 8% mAP improvement for 3D/2D data retrieval on ModelNet dataset.
 - **Vehicle Re-identification:** 16% accuracy boost on VeRi dataset and top-ranked in the AIC Challenge.

Software Development and Implementation Skills

- Over 10 years of Python expertise, skilled in PyTorch and TensorFlow with 5+ years of practical experience.
- Developed educational software utilizing deep learning for evaluation of sign language fluency in videos.

EDUCATION

Doctor of Philosophy in Computer Science , The City University of New York	<i>New York, NY</i>
Master of Philosophy in Computer Science , The City University of New York	<i>New York, NY</i>
Bachelor of Science in Mathematics , Sharif University of Technology	<i>Tehran, Iran</i>

INTERNSHIP EXPERIENCE

Research Science Intern , Dataminr	<i>Fall 2021</i>
• Conducted research in event localization from audio-visual signals.	
Data Science Intern , Expedia Group	<i>Summer 2021</i>
• Developed image scene classifiers under conditions of noise and artifacts.	

TECHNICAL SKILLS

Related Knowledge: Artificial Intelligence, Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Generative AI, Adversarial Learning, Reinforcement Learning.

Technologies: Python, C++, MATLAB, R, MySQL, Java, JavaScript, PHP, HTML, PyTorch, Tensorflow, TensorboardX, Scikit-learn, OpenCV, Linux, Git, Docker, \LaTeX .

HONORS AND AWARDS

Doctoral Student Research Grant, awarded by the National Science Foundation.

Doctoral Student Research Grant, awarded by N2Women of the IEEE Communications Society.

Science Fellowship, awarded by the City University of New York.

Bronze Medalist in the National Informatics Olympiad, Iran.

SERVICE

Reviewer: Reviewed top AI conferences and journals, including CVPR, TMM, CVIU, MVAP, and JVCI.

Adjunct Lecturer: Instructed undergraduate computer science courses for 6 years at the City University of New York, receiving recognition as the best algorithm professor by students' vote.

- [1] **E. Vahdani**, Y. Tian, “[ADM-Loc: Actionness Distribution Modeling for Point-supervised Temporal Action Localization](#)”, (*Under Review*), 2024.
- [2] **E. Vahdani**, Y. Tian, “[POTLoc: Pseudo-Label Oriented Transformer for Point-Supervised Temporal Action Localization](#)”, *Computer Vision and Image Understanding* (CVIU), 2024.
- [3] **E. Vahdani**, L. Jing, M. Huenerfauth, and Y. Tian, “[Multi-Modal Multi-Channel American Sign Language Recognition](#)”, *International Journal of Artificial Intelligence Research*, (IJAIR) 2023.
- [4] **E. Vahdani**, Y. Tian, “[Deep learning-based action detection in untrimmed videos: A survey](#)”, *IEEE Transactions on Pattern Analysis and Machine Intelligence* (TPAMI), 2022.
- [5] L. Jing*, **E. Vahdani***, J. Tan, and Y. Tian, “[Cross-Modal Center Loss for 3D Cross-Modal Retrieval](#)”, (*Equal Contribution), *IEEE/CVF Conference on Computer Vision and Pattern Recognition* (CVPR), 2021.
- [6] **E. Vahdani**, L. Jing, Y. Tian, and M. Huenerfauth, “[Recognizing American sign language nonmanual signal grammar errors in continuous videos](#)”, *The International Conference on Pattern Recognition* (ICPR), 2020.
- [7] S. Hassan, L. Berke, **E. Vahdani**, L. Jing, Y. Tian, and M. Huenerfauth, “[An isolated-signing RGBD dataset of 100 American Sign Language signs produced by fluent ASL signers](#)”, *The International Conference on Language Resources and Evaluation* (LREC), 2020.
- [8] Y. Chen, L. Jing, **E. Vahdani**, L. Zhang, M. He, and Y. Tian, “[Multi-camera Vehicle Tracking and Re-identification on AI City Challenge 2019](#)”, *IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops* (CVPRW), 2019.
- [9] **E. Vahdani**, A. Bar-Noy, M. P. Johnson, and T. Abdelzaher, “[Gathering Information in Sensor Networks for Synchronized Freshness](#)”, *IEEE International Conference on Sensing, Communication, and Networking* (SECON), 2017.