

Prakhar Kaushik

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EDUCATION

Johns Hopkins University In-Progress Ph.D. Computer Science; 2020 **M.S.**, Computer Science

RESEARCH EXPERIENCE

My current work involves intersection of unsupervised learning, 3D generative models, continual learning, domain adaptation, and model robustness. I also dabble in causal inference and optimal transport. My research revolves around using cognitive computational science concepts for solving signal processing and machine learning problems especially related to computer vision and graphics.

Currently, I am focusing on projects regarding part-based 3D object representation and completion, and lifelong learning for Internet-scale large vision-language models.

Johns Hopkins University Computer Science Department (Baltimore, MD, USA)	9/2020 – now	Graduate Research Assistant Supervisor: Dr. Alan Yuille
Laboratory for Computational Sensing + Robotics (Baltimore, MD, USA)	6/2020 – 9/2020	Graduate Research Assistant Supervisor: Dr. Marin Kobilarov
School of Public Health (Baltimore, MD, USA)	10/2018 – 4/2019	Graduate Research Assistant Supervisor: Dr. Qingfeng Li
Information Security Institute (Baltimore, MD, USA)	6/2018 – 10/2018	Graduate Research Assistant Supervisor: Dr. Lanier Watkins
Amazon Sponsored Products	06/2021 – 09/2021	Applied Scientist Intern Supervisors: Dr. Avishek Saha
Visual Search (Palo Alto, CA, USA)	06/2022 – 12/2022	Applied Scientist Intern Supervisors: Dr. Brian Li
Indian Statistical Institute Cryptology Institute (Kolkata, India)	5/2016 – 8/2016	Research Intern Host: Dr. Vishal Saraswat

INDUSTRY EXPERIENCE

Amplio Sports Analytics	04/2019 – 04/2020	AI Development Lead
Ernst&Young	07/2017 – 12/2017	Risk Analyst

PUBLICATIONS AND PAPERS

Papers with future venues are accepted to appear in them.

** equal contribution.*

Unpublished

- iNeMo: Incremental Neural Mesh Models for Robust Class-Incremental Learning. Tom Fischer, Yaoyao Liu, Artur Jesslen, Noor Ahmed, Prakhar Kaushik, Angtian Wang, Alan Yuille, Adam Kortylewski, and Eddy Ilg. preprint, 2024.
- CIDA-3D: Conformal Inference aided Unsupervised Domain Adaptation for 3D-Aware Classification. Prakhar Kaushik, Aayush Mishra, Anqi Liu, Adam Kortylewski, and Alan Yuille. preprint, 2024.

Published

- A Source-Free and Image-Only Unsupervised Domain Adaptation for Category Level Object Pose Estimation. Prakhar Kaushik, Aayush Mishra, Adam Kortylewski, and Alan Yuille. In *The Twelfth International Conference on Learning Representations, (ICLR)* 2024.
- A Bayesian Approach to OOD Robustness in Image Classification. Prakhar Kaushik, Adam Kortylewski, and Alan Yuille. In *The IEEE/CVF Conference on Computer Vision and Pattern Recognition, (CVPR)* 2024.
- Learning Part Segmentation from Synthetic Animals. Jiawei Peng, Ju He, Prakhar Kaushik, Zihao Xiao, Jiteng Mu, and Alan Yuille. In *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision, (WACV)* 2024.
- Animal3d: A comprehensive dataset of 3d animal pose and shape. Xu et al. In *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, 2023.
- Understanding catastrophic forgetting and remembering in continual learning with optimal relevance mapping. Prakhar Kaushik, Alex Gain, Adam Kortylewski, Alan Yuille. In *Conference on Neural Information Processing Systems Fifth Workshop on Meta Learning, (NeurIPS)* workshop 2021.
- Adaptive neural connections for sparsity learning. Alex Gain*, Prakhar Kaushik*, Hava Siegelmann. In *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision, (WACV)* 2020.
- Radar as a Security Measure - Real Time Neural Model based Human Detection and Behaviour Classification. Prakhar Kaushik. In *IEEE Global Conference on Signal and Information Processing*, 2019.
- Timing attack analysis on AES on modern processors. Prakhar Kaushik, Rana Majumdar. In *International Conference on Reliability, Infocom Technologies and Optimization*, 2017.

- An Offline Outdoor Navigation System with Full Privacy. Prakhar Kaushik, Vishal Saraswat, and Francesco Buccafurri. In *Proceedings of the 14th International Joint Conference on e-Business and Telecommunications* , 2017.

AWARDS AND FELLOWSHIPS

- Lieutenant General MM Lakhera Silver Medal (2012) – Best In Mathematics.
- Colonel Haughten Silver Medal (2012).
- Lieutenant Commander Rajat K Sen Silver Medal (2010).
- UN Jha Memorial Gold Medal, 2010.

SERVICE

- Founder and President of Indian Graduate Student Association (IGSA), Johns Hopkins, 2022–now.
- Reviewer for NeurIPS, ICLR, CVPR, ICCV, BMVC, WACV (2019–now).