Kalyani Marathe

Research Assistant
University of Washington
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Research interests

Representation Learning, Empirical Machine Learning, Large models

Education

Ph.D. at University of Washington — Mar 2021 - (ongoing)
Department of Electrical and Computer Engineering
Advisors: Prof. Linda Shapiro and Prof. Ranjay Krishna
Research interests: Deep Learning, Computer Vision

M.S. at University of Washington — Sep 2019 - Mar 2021
Courses: Computer Vision, Statistical Learning, Deep Learning, AI
Department of Electrical and Computer Engineering, GPA: 3.92/4

B.Tech. at College of Engineering, Pune — Jun 2013 - Jun 2017
Electronics and Telecommunication Engineering,
GPA: 8.87/10 (Rank: 6/87)

Research & Industry Experience

Research Assistant — Jun 2020 - (ongoing)
Paul G. Allen School of Computer Science & Engineering, Seattle
Self supervised representation learning for dense prediction tasks [1]
(as part of the UW-Amazon Sciencehub)

Associate Software Engineer — Jul 2017 - Aug 2019
IDeaS Revenue Solutions, A SAS Company, Pune

Summer Research Fellow — May 2016 - Jul 2016
Department of CSE, Indian Institute of Technology, Kanpur

Selected Publications

1. **"MIMIC: Masked Image Modeling with Image Correspondences" Marathe, K.**, Bigverdi, M., Khan, N., Kundu, T., Kembhavi, A., Shapiro, L. G., Krishna, R., (Preprint under review) [PDF] [Code]
2. **"OpenFlamingo: An Open-Source Framework for Training Vision-Language Models with In-Context Learning"**, Awadalla, A., Gao, I., Gardner, J., Hessel, J., Hanafy, Y., Zhu, W., **Marathe, K.**, Bitton, Y., Gadre, S., Jitsev, J. and Kornblith, S., 2023. Openflamingo

   [PDF] [Code]
3. **DataComp: In search of the next generation of multimodal datasets.** Gadre, S.Y., Ilharco, G., Fang, A., Hayase, J., Smyrnis, G., Nguyen, T., Marten, R., Wortsman, M., Ghosh, D., Zhang, J. and Orgad, E., 2023. (**NeurIPS oral**)

   [PDF] [Code]

Teaching Experience

TA, **CSEP 576: Computer Vision** [link] — Fall 2021
Paul G. Allen School of Computer Science & Engineering, Seattle

TA, **CSE 412: Introduction to Data Visualization** [link] — Winter 2021, Spring 2021
Paul G. Allen School of Computer Science & Engineering, Seattle

TA, **CSE 374: Intermediate Programming Concepts & Tools** [link] — Fall 2020
Paul G. Allen School of Computer Science & Engineering, Seattle

University Service

PhD Student Representative, Graduate Programs Review Committee — Fall 2022
Worked with professors and staff members to discuss policy improvements
Department of Electrical & Computer Engineering, UW Seattle

Mentor, Graduate Application Support Program (GASP) — Fall 2022
Read application materials and provided feedback to applicants from underserved communities
Department of Electrical & Computer Engineering, UW Seattle

Member, MS Admissions Triage Committee — Fall 2020
Evaluated application materials of 20+ students interested in pursuing Masters in Computer Vision and Machine Learning
Department of Electrical & Computer Engineering, UW Seattle

Awards

The IDeaS "Way To Go" Award (Leadership and Team Spirit category) — Oct 2018
IDeaS, A SAS Company, Pune

Summer Research Fellowship Award — Mar 2016
IASc (Bengaluru), INSA (New Delhi), NASJ (Allahabad)

Statewise top 1% in the NSEJS Examination — Dec 2010
Top 300 in India to appear for the second stage of the International Junior Science Olympiad
Indian Association of Physics Teachers, Kanpur

Skills

Programming Languages:	Python, Java, Groovy, C, C++, LaTeX
Machine Learning:	PyTorch, Tensorflow, Scikit-Learn, Numpy, Scipy