

Abhinav Shukla

Researcher
Scaled Foundations

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Interests	Multimodal representation learning, Self-supervised learning, Computer vision, Audio	
Experience	Scaled Foundations, Kirkland, WA, USA	2023 - present
	<i>Researcher, Multimodal Machine Learning</i> Working on large-scale multimodal representation learning for robotics applications	
	Meta Reality Labs Research, Redmond, WA, USA	2022 - 2023
Education	<i>Research Engineer, Audio Visual Machine Learning</i> Worked in the Audio team at Meta Reality Labs Research. Developed infrastructure for large scale training, benchmarking, and optimizing multimodal/audiovisual models for AR glasses. Conducted research on egocentric audiovisual machine learning and computer vision. Published at CVPR 2023.	
	Imperial College London, UK	2018 - 2022
	<i>PhD in Computer Science</i> Adviser: Prof. Maja Pantic Thesis: <i>Learning Self-Supervised Representations of Audiovisual Human-Centric Data</i>	
	International Institute of Information Technology, Hyderabad, India	2017 - 2018
	<i>MS in Computer Science by Research</i> Adviser: Prof. Ramanathan Subramanian Thesis: <i>Multimodal Emotion Recognition from Advertisements with Application to Computational Advertising</i>	
Internships	International Institute of Information Technology, Hyderabad, India	2013 - 2017
	<i>B.Tech (Hons.) in Computer Science and Engineering</i> GPA 8.78/10.00	
	Facebook Reality Labs (FRL) Research, Redmond	Fall 2020, Spring 2021
	<i>With Anurag Kumar and Vamsi Krishna Ithapu</i> Worked on self-supervised audiovisual representation learning at FRL Research Audio.	
	National University of Singapore, Singapore	Fall 2017, Spring 2018
Awards, Fellowships, & Recognition	<i>With Prof. Mohan Kankanhalli</i> Studied multimodal (audio, video, eye-tracking, physiology) affect recognition in advertisement videos. Published in IEEE Transactions on Affective Computing and at ICMI 2018.	
	Google Summer of Code (remote)	Summer 2016, 2017
	2017: Red Hen Lab, with Prof. Francis Steen and Prof. Mark Turner 2016: CCEXtractor, with Carlos Fernandez Sanz	
	CVPR Outstanding Reviewer Award	2023
	Samsung PhD Fellowship	2019-2020
Publications	IIIT Hyderabad Fast-track Masters thesis (for high quality papers in reputed venues)	2018
	IIIT Hyderabad Research award (for publishing as an undergraduate)	2018
	ACM SIGCHI Gary Marsden Student Development Fund (to attend ICMI 2018)	2018
	Google India Travel Grant (to attend ACM MM 2017)	2017
	ACM ICMI 2017 Travel Grant (to attend ICMI 2017)	2017
Preprints	Dean's Merit List Award for excellence in academics (6 consecutive semesters)	2014-2017
	[11] GRID: A Platform for General Robot Intelligence Development S. Vemprala, S. Chen, A. Shukla, D. Narayanan, A. Kapoor <i>arXiv</i> , 2023	
Publications	[10] Egocentric Auditory Attention Localization in Conversations F. Ryan, H. Jiang, A. Shukla, J. Rehg, V. Ithapu	

- [9] **Does Visual Self-Supervision Improve Learning of Speech Representations?**
A. Shukla, S. Petridis, M. Pantic
IEEE Transactions on Affective Computing (TAFFC), 2021
- [8] **Recognition of Advertisement Emotions with Application to Computational Advertising**
A. Shukla, S. S. Gullapuram, H. Katti, M. Kankanhalli, R. Subramanian
IEEE Transactions on Affective Computing (TAFFC), 2020
- [7] **Visually Guided Self Supervised Learning of Speech Representations**
A. Shukla, K. Vougioukas, P. Ma, S. Petridis, M. Pantic
International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2020, *Oral*
- [6] **Looking Beyond a Clever Narrative: Visual Context and Attention are Primary Drivers of Affect in Video Advertisements**
A. Shukla, H. Katti, M. Kankanhalli, R. Subramanian
ACM International Conference on Multimodal Interaction (ICMI), 2018, *Oral*
- [5] **Evaluating Content-Centric vs. User-Centric Ad Affect Recognition**
A. Shukla, S. S. Gullapuram, H. Katti, K. Yadati, M. Kankanhalli, R. Subramanian
ACM International Conference on Multimodal Interaction (ICMI), 2017
- [4] **Affect Recognition in Ads with Application to Computational Advertising**
A. Shukla, S. S. Gullapuram, H. Katti, K. Yadati, M. Kankanhalli, R. Subramanian
ACM International Conference on Multimedia (ACM MM), 2017, *Oral*
- Workshop Papers [3] **Learning Speech Representations from Raw Audio by Joint Audiovisual Self-Supervision**
A. Shukla, S. Petridis, M. Pantic
ICML Workshop - Self-Supervision in Audio and Speech, 2020
- [2] **Visual Self-Supervision by Facial Reconstruction for Speech Representation Learning**
A. Shukla, S. Petridis, M. Pantic
CVPR Workshop - Sight and Sound, 2020
- [1] **Learning Self-Supervised Multimodal Representations of Human Behaviour**
A. Shukla
Doctoral Symposium at ACM International Conference on Multimedia (ACM MM), 2020
- Invited Talks & Panels **Self-Supervised Audiovisual Representation Learning**
Apple Video Engineering 2023
- Learning Self-Supervised Multimodal Representations of Human Behavioural Data**
Facebook Reality Labs Research (FRL-R) 2021
Mitsubishi Electric Research Laboratories (MERL) 2021
University of Nottingham 2019
- Automatic Understanding of News Videos & CCEXtractor**
Universität Osnabrück 2017
- Professional Activities **Reviewing**
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2022-2024
IEEE/CVF International Conference on Computer Vision (ICCV) 2023
IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2024
IEEE Transactions on Affective Computing (TAFFC) 2019-2023
Affective Computing and Intelligent Interaction (ACII) 2022
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2021
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2021
International Journal of Computer Vision (IJCV) 2021
IEEE International Conference on Automatic Face and Gesture Recognition (FG) 2019