



# Tushar Kataria

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Scientific Computing Institute | Kalhert School of Computing | Webpage: [HomePage](#)

## EDUCATION

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### University Of Utah

PhD in Computing

Utah, USA

Current -Jan 2021

**Interests:** Deep Learning, Medical Image Processing | Advisor: Prof. Shireen Y. Elhabian

### Indian Institute of Technology, Bombay

M.Tech. in Communication Engineering

Maharashtra, India

July 2017

**Thesis:** Image Fusion Using Multi-resolution Algorithms | Advisor: Prof. V.M. Gadre, Electrical Engineering

### AIACTR, GGSIPU (Renamed NSIT east campus)

Bachelor of Technology in Electronics and Communication Engineering, Advisor: Prof. Rashmi Gupta, ECE

New Delhi, India

May 2013

## CONFERENCE PUBLICATIONS

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- **Kataria, Tushar**, Beatrice Knudsen, and Shireen Y. Elhabian.. "Unsupervised Domain Adaptation For Semantic Segmentation Under Target Data Scarcity." *Accepted to ISBI 2024*.
- Dubey, Shikha, **Tushar Kataria**, Beatrice Knudsen, and Shireen Y. Elhabian. "Structural Cycle GAN for Virtual Immunohistochemistry Staining of Gland Markers in the Colon." *14th MLMI Workshop 2023, MICCAI 2023*.
- **Kataria, Tushar**, Beatrice Knudsen, and Shireen Y. Elhabian. "To pretrain or not to pretrain? A case study of domain-specific pretraining for semantic segmentation in histopathology." *2nd MILLanD Workshop 2023, MICCAI 2023*.
- Karanam, Mokshagna Sai Teja, **Tushar Kataria**, Krithika Iyer and Shireen Y. Elhabian.. "ADASSM: Adversarial Data Augmentation in Statistical Shape Models From Images." *ShapeMI Workshop 2023, MICCAI 2023*.
- Khincha, Siddharth, Chelsi Jain, Vivek Gupta\*, **Tushar Kataria\***, and Shuo Zhang. . "InfoSync: Information Synchronization across Multilingual Semi-structured Tables." *Findings of the Association for Computational Linguistics: ACL 2023*. 2536–2559
- Hall, Mary, Ganesh Gopalakrishnan, Eric Eide, Johanna Cohoon, Jeff Phillips, Mu Zhang, Shireen Elhabian, Aditya Bhaskara, Harvey Dam, Artem Yadrov, **Tushar Kataria**, Amir Mohammad Tavakkoli, Sameeran Joshi, Mokshagna Sai Teja Karanam. "An NSF REU Site Based on Trust and Reproducibility of Intelligent Computation: Experience Report.", *In Proceedings of the SC'23 Workshops of The International Conference on High Performance Computing, Network, Storage, and Analysis*, pp. 343-349. 2023.
- Vanmali, Ashish V., **Tushar Kataria**, Samrudhha G. Kelkar, and Vikram M. Gadre. "Analysis of Ringing Artifact in Image Fusion Using Directional Wavelet Transforms", *IJERT Nov 2020*
- Patel, Nikunj\* and **Kataria, Tushar\*** . "Image hallucination at different times of day using locally affine model and kNN template matching from time-lapse images." *In Proceedings of the Tenth Indian Conference on Computer Vision, Graphics and Image Processing*, pp. 1-8. 2016.

## JOURNAL PUBLICATIONS

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- **Kataria, Tushar**, Saradha Rajamani, Abdul Bari Ayubi, Mary Bronner, Jolanta Jedrzkiewicz, Beatrice Knudsen, and Shireen Y. Elhabian.. "Automating Ground Truth Annotations For Gland Segmentation Through Immunohistochemistry." *Modern Pathology 2023*.
- Vanmali, Ashish V., **Tushar Kataria**, Samrudha G. Kelkar, and Vikram M. Gadre. "Ringing artifacts in wavelet based image fusion: Analysis, measurement and remedies." *Information Fusion 56 (2020): 39-69*.

## ARCHIVED PUBLICATIONS

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- Gupta, Vatsal\*, Pranshu Pandya\*, **Tushar Kataria**, Vivek Gupta, and Dan Roth. "Multi-Set Inoculation: Assessing Model Robustness Across Multiple Challenge Sets." arXiv preprint arXiv:2311.08662 (2023)
- **Kataria, Tushar**, Beatrice Knudsen, and Shireen Y. Elhabian.. "StainDiffuser: MultiTask Dual Diffusion Model for Virtual Staining." arXiv preprint arXiv:2403.11340 (2024)
- Aziz, Abu Zahid Bin\*, Mokshagna Sai Teja Karanam\*, **Tushar Kataria**, and Shireen Y. Elhabian. "EfficientMorph: Parameter-Efficient Transformer-Based Architecture for 3D Image Registration." arXiv preprint arXiv:2403.11026 (2024)
- Nihalaani, Rachaell, **Tushar Kataria**, Jadie Adams, and Shireen Y. Elhabian. "Estimation and Analysis of Slice Propagation Uncertainty in 3D Anatomy Segmentation." arXiv preprint arXiv:2403.12290 (2024)
- Ukey Janmesh, **Tushar Kataria**, and Shireen Y. Elhabian. "MASSM: An End-to-End Deep Learning Framework for Multi-Anatomy Statistical Shape Modeling Directly From Images." arXiv preprint arXiv:2403.11008 (2024)

## TEACHING/MENTORING EXPERIENCE

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- REU 2023, University of Utah. Mentored projects by 3 students on Digital pathology and SSM.
- TA/TM, CS4640 Fall 2022, Introduction to Image Processing, Kahlert School of Computing, University of Utah, Instructor :- Prof. Shireen Y. Elhabian
- TA/TM, CS6640 Fall 2021, Image Processing, Kahlert School of Computing, University of Utah, Instructor :- Prof Ross Whitaker
- Lab Teaching Assistant, TIDSP lab, IIT Bombay
  - EE352(Digital Signal Processing Lab, undergraduate course)(Spring 2015,2016,2017), Instructors:- Prof. Rajbabu Velmurugan, Prof. Saravanan Vijayakumaran
  - EE750 (DSP System Design and Implementation, Graduate Course), (Autumn 2014,2015,2016), . Instructors:- Prof. VM Gadre, Prof Rajbabu Velmurugan

## JOB EXPERIENCE

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<b>Cadence Design Systems IP Group formerly Tensilica</b>	Pune, Maharashtra
<i>Lead Design Engineer</i>	<i>Dec 2020 -July 2019</i>
<i>Design Engineer II</i>	<i>June 2019 -July 2017</i>
<b>Inovas Tech</b>	New Delhi
<i>Website Developer</i>	<i>Feb 2014 - Aug 2013</i>

## VOLUNTEERING EXPERIENCE

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- **ACT Volunteer Tutor, Bennion Center, University of Utah** : Helping students with Maths, Science, and Reading at one of the Public Libraries. Current-Aug 2022
- **Social Responsibility Group, Cadence Designs System, Pune** : As a part of the social outreach program, I actively participated in selecting causes to assist, such as flood relief, care facilities for mentally challenged adults, care homes for adults with intellectual disabilities, and science education in rural areas. Volunteering for social outreach projects, creating new events centered around causes, promoting employee involvement, and other duties are also responsibilities. Dec 2020 - July 2017
- **Volunteering for Leadership Development with Tech4Team in Collaboration with W.I.T.U., Uganda** : Part of team of 10 Cadence employees who went to Uganda to work with a local non-profit called Women in Technology, Uganda. We helped in building their first maker space, train their teachers on how to use 3D printing, virtual reality, electronics(BBC Microbit) and help in improving their entrepreneurship program. Oct 2019 - Aug 2019
- **Ed Support Volunteer, MAD** : Taught Maths and English to orphanage students enrolled in diploma programs at university. Feb 2020 - Dec 2017
- **Volunteer Teacher, Abhyasika** : Weekly English and Math tutoring for students from economically disadvantaged families. July 2017-Aug 2014