

CONTACT	631-747-1244 Stony Brook, NY 11790	aishikkonwer95.github.io akonwer@cs.stonybrook.edu
EDUCATION	<p>Stony Brook University, New York (USA) 2019 - present PhD, Computer Science GPA: 3.92/4 <i>Advisor: Dr. Prateek Prasanna</i></p> <p>Institute of Engineering & Management, Kolkata (India) 2013 - 2017 BTech, Electronics & Communication Engineering GPA: 8.89/10</p>	
RESEARCH INTERESTS	Meta learning, Few shot learning, Self-supervised learning, Domain generalization, Generative modeling (GAN, stable diffusion), Vision-language models (VLM), Multimodal representation learning	
INDUSTRY EXPERIENCE	<p>GE Healthcare - AI Scientist Intern May 2024 - Aug. 2024 Working with Foundational AI team Topic: Efficient prompting and human-in-the-loop feedback for weakly supervised 3D organ segmentation Mentor: Danica Xiao</p> <p>SRI International - Deep Learning Research Intern May 2023 - Aug. 2023 Worked with Scene Understanding and Navigation team Topic: Remote sensing image segmentation from HS, LiDAR, and RGB data via masked pre-training Mentor: Han-Pang Chiu</p> <p>Roche Diagnostics - ML Research Intern May 2022 - Aug. 2022 Worked with Computational Science Pathology team Topic: Annotation-efficient learning algorithm for cell detection and classification in gigapixel images Mentor: Christoph Guetter</p> <p>Cognizant - Programmer Analyst Dec. 2017 - Jul. 2019 Worked with Data warehouse team Topic: Writing shell scripts, SQL, and Informatica transformations for data migration Mentor: Kanchan Patra</p>	
ONGOING PROJECTS	<ul style="list-style-type: none"> • Human eye-gaze guided image caption generation using vision language models (VLM) • Gigapixel image synthesis via diffusion autoencoders 	
PUBLICATIONS	<ul style="list-style-type: none"> • A Konwer et al., “MetaStain: Stain-generalizable Meta-learning for Cell Segmentation and Classification with Limited Exemplars”, MICCAI 2024. • A Konwer et al., “Enhancing Modality-Agnostic Representations via Meta-Learning for Brain Tumor Segmentation”, ICCV 2023. [PDF] • A Konwer et al., “MagNET: Modality-Agnostic Network for Brain Tumor Segmentation and Characterization with Missing Modalities”, MICCAIw 2023. • A Konwer et al., “Temporal Context Matters: Enhancing Single Image Prediction with Disease Progression Representations”, CVPR 2022. [PDF][Oral] • A Konwer et al., “Lesion segmentation and genomic characterization of brain cancer patients from incomplete MR sequences”, <i>Radiology Society of North America (RSNA)</i> 2022. [Oral] • A Konwer et al., “Clinical outcome prediction in COVID-19 using self-supervised vision transformer representations”, SPIE Medical Imaging 2022. [Oral] • A Konwer et al., “Attention-Based Multi-scale Gated Recurrent Encoder with Novel Correlation Loss for COVID-19 Progression Predictions”, MICCAI 2021. [Early Accept] [PDF] • A Konwer et al., “Predicting COVID-19 Lung Infiltrate Progression on Chest Radiographs Using Spatio-temporal LSTM based Encoder-Decoder Network”, MIDL 2021. [PDF] • A Konwer et al., “Staff line Removal using Generative Adversarial Networks”, ICPR 2018. [PDF][Oral] 	

- AK Bhunia*, **A Konwer***, A Bhowmick, AK Bhunia, PP Roy, U Pal, “Script Identification in Natural Scene Image and Video Frame using Attention based Convolutional-LSTM Network”, **Pattern Recognition** 2019. [PDF]
- S Nag, AK Bhunia, **A Konwer**, AK Bhunia, PP Roy, “Facial Micro-expression Spotting and Recognition Using Time Contrasted Feature with Visual Memory”, **ICASSP** 2019. [PDF]
- AK Bhunia, AK Bhunia, P Banerjee, **A Konwer**, A Bhowmick, PP Roy, U Pal, “Word Level Font-to-Font Image Translation using Convolutional Recurrent Generative Adversarial Networks”, **ICPR** 2018. [PDF]

PRE-PHD RESEARCH EXPERIENCE	<p>IIT Roorkee - Research Intern 2017 - 2018 Worked with Parimal Lab Topic: Script identification and staff line removal from music score images Mentor: Partha Pratim Roy</p> <p>Indian Statistical Institute - Research Intern 2016 - 2017 Worked with CVPR unit Topic: Handwritten text segmentation, GVF-based license character segmentation Mentor: Umapada Pal</p>
INVITED TALKS	<p>“Towards Data-Efficient Representation Learning in Medical Vision” Oct. 2023 MedAI group, Stanford University Host: Daniel Rubin</p> <p>“Meta-Learning in Digital Pathology” Nov. 2022 Roche Advanced Analytics Network Host: Qinle Ba, Julie Ta</p> <p>“Modality-Agnostic Network for Brain Tumor Characterization with Missing Modalities” Oct. 2022 Graduate Research Day, Stony Brook University Host: Computer Science Dept.</p> <p>“Predicting Disease Trajectory on Medical Imaging” May 2022 Siemens Healthineers Host: Halid Yerebakan</p> <p>“How to utilize limited datasets? Can temporal imaging help” Oct. 2021 Applied Maths and Stats Dept., Stony Brook University Host: Wei Zhu</p>
AWARDS	<ul style="list-style-type: none"> • Travel grant, Computer Vision and Pattern Recognition (CVPR), 2022 • Conference support, SPIE Medical Imaging, 2022 • Professional Development Fund, SUNY Research Foundation, 2021 • Prestigious PhD Chairman Fellowship, Stony Brook University, 2019 • NPTEL Elite Certification in Medical Image Analysis, IIT Kharagpur, 2017 • 1st Prize in Engineering Model-making Competition, NEN 2015
REVIEWER	CVPR, ICCV, NeurIPS, ECCV, MICCAI, BMVC, Medical Image Analysis, MIDL, ISBI
TEACHING	<ul style="list-style-type: none"> • CSE 305 Principles of Database Systems (Fall 2019, Spring 2020) • CSE 512 Machine Learning (Summer 2020)
COURSEWORK SKILLS	Computer Vision, Machine Learning, Data Science, Visualization, Human Computer Interaction. Python, C++, Matlab, SQL, Pytorch, Tensorflow, Numpy, OpenCV, L ^A T _E X