Tajamul Ashraf

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Official Address	Permanent Address
Department of Computer Vision	H-1253, New Colony
MBZUAI, Masdar City	Karan Nagar, Srinagar
Abu Dhabi; 50819, UAE	Kashmir; 190010, India

RESEARCH INTERESTS

I am interested in addressing the challenges faced by Medical `AI`, image understanding, and object detection tasks, particularly when confronted with cross-domain and Out-Of-Distribution (`OOD`) scenarios.

EDUCATION

Indian Institute of Technology, (IIT Delhi)   New Delhi, India

Master of Science (M.S by Research) in Computer Science   June 2024
GPA: 9.28/10.0
Advisor: [Prof. Chetan Arora](#),   Co-Advisor: [Prof. (Dr.) Krithika Rangarajan](#)
Thesis title: *Domain Adaptation in Breast Cancer Detection from Mammograms.*

National Institute of Technology, (NIT Srinagar)   Srinagar, Kashmir

Bachelors of Technology in Information Technology   July 2022
GPA: 8.34/10.0
Advisor: [Prof. Janibul Bashir](#)
Thesis title: *Robust DL Models for Analyzing the Impact of Coherent Climatic Factors.*

RESEARCH EXPERIENCE

Mohamed Bin Zayed University of Artificial Intelligence (MBZUAI)   Abu Dhabi, UAE

Research Associate II   Jan 2025 – Current
Line Manager(s): [Prof. Salman Khan](#) and [Prof. Rao Anwer.](#)

- Managing the **BoRG dataset** for studying mitotic processing in brain organoids.
- Expanding dataset annotations for segmentation and cellular event tracking such as mitosis phases.
- Optimizing annotation pipelines to improve accuracy with minimal expert input.

Microsoft Research (MSR)   Bangalore, INDIA

Research Intern   July 2024 – Dec 2024
Host Advisor(s): [Dr. Mohit Jain](#) and [Dr. Prachi Jain.](#)

- Worked on Knowledge Graph-based Information Retrieval with RAG.

- Automated LLM pipelines with a semi-structured knowledge base (SKB) for medical chatbots.
- Introduced **Cataract-MSICS** dataset and proposed a phase-conditioned method with pseudo-labeling for surgical tool segmentation.

`AI & Robotics Technology Park, I-Hub (ARTPARK)`   Bangalore, INDIA

`Visiting Student`   Dec 2021 – May 2022

Advisor: Prof. Raghu Krishnapuram.

- Developed an automated washroom cleaning robot `Robojanitor`.
- Designed robust models for pose estimation, detection, classification, and SLAM.
- Developed 3D pose models and REST APIs for production.

`Indian Institute of Science (IISc)`   Abu Dhabi, UAE

`Research Intern`   Mar 2021 – Sep 2021

Advisor(s): Prof. S.N. Omkar and Prof. Balaji Prabu.

- Developed a novel human pose comparison model to assist yoga teachers during online classes.
- Utilized BlazePose to accurately mark key points of both teachers and students during live sessions.
- Designed a feedback mechanism to compare poses and provide real-time corrections to students.

WORK EXPERIENCE

`LEENA AI`   Remote(WFH), USA

`Software Developer I`   May 2022 – Oct 2022

Line Manager: Anand Prajapati

- Executed full stack software development for the Product and ML team.
- Worked on cross-functional projects, architecting solutions to meet client requirements.

`BSNL ALTTC`   Delhi, INDIA

`Cybersecurity Trainee`   Jan 2019 – Mar 2019

Line Manager: R.K. Pandit

- Troubleshooted and resolved network issues related to Wi-Fi, bluetooth.
- Implemented security measures and optimized network performance in wireless environments.

PUBLICATIONS

(* indicates joint first authors, + indicates my role as mentor)

P6 *D-MASTER: Mask Annealed Transformer for Unsupervised Domain Adaptation in Breast Cancer Detection from Mammograms.* ☺ Code 📄 Paper.

Tajamul Ashraf, Krithika Rangarajan, Mohit Gambhir, Richa Gauba, Chetan Arora

`MICCAI (Medical Image Computing and Computer Assisted Intervention) 2024.`

P5 *HF-Fed: Hierarchical based customized Federated Learning Framework for X-Ray Imaging.*
☺ Code 📄 Paper.

Tajamul Ashraf, Tisha Madame

`MICCAI Workshop (Deep-Brea3th:Deep Breast Workshop on AI and Imaging for Diagnostic and Treatment Challenges in Breast Care) 2024.` Best Student Paper Award!

P4 *TransFed: A way to epitomize Focal Modulation using Transformer-based Federated Learning.*
   Code   Paper.

Tajamul Ashraf, Fuzayil Mir, Iqra Altaf Gillani

WACV (IEEE/CVF Winter Conference on Applications of Computer Vision) 2024.

P3 *PoseWatch: Advancing Real-Time Human Pose Tracking and Juxtaposition with Deep Learning.*
   Paper.

Tajamul Ashraf, BV Balaji Prabu, OS Jois Narasipura

CVIP (Computer Vision and Image Processing) 2023.

P2 *Climate Change Parameter Dataset (CCPD): A Benchmark Dataset for Climate Change Parameters in Jammu and Kashmir.* Paper.

Tajamul Ashraf, Janibul Bashir

ICDSA (International Conference on Data Science and Applications) 2023.

P1 *An integral computer vision system for apple detection, classification, and semantic segmentation.*
   Code   Paper.

Tajamul Ashraf, Nair Abbas, Mohammad Haseeb, Nadeem Yousuf, Janibul Bashir

ICMV (International Conference on Machine Vision) 2022.

TEACHING and ACADEMIC SERVICES

Teaching Assistant | Indian Institute of Technology, Delhi
- Computer Vision (COL780) | Spring 2024 with Prof. Chetan Arora
- Computer Vision for Robotics (JRL780) | Spring 2024 with Prof. Chetan Arora
- Computer Science Fundamentals and Programming (COL100) | Fall 2023 with Prof. Chetan Arora and Prof. Vireshwar Kumar
- Special Topics in Machine Learning (COL870) | Spring 2023 with Prof. Anurag Mittal
- Data Structures and Algorithms (COL106) | Fall 2022 with Prof. Naveen Garg and Prof. Ashish Chiplunkar

Conference Reviewing | Reviewer
- MICCAI'25, 24 | WACV'25, 24 | CVIP'23, 22 | HPEC'23

Conference Volunteer | Organizer
- Serving as a program volunteer for CVIP conference in IIT Jammu, INDIA

Invited Talk | Speaker
- Presented two talks on Research directions, Placements, and Internships to undergrad IT students at the National Institute of Technology Srinagar.

Pilot Mentorship Program | Mentor
- As an alumnus, I mentor bachelor's students from the graduating batches of NIT Srinagar and guide their final project thesis and potential research publications.

Students (∗ denotes current)
1. Suhaib Salmani∗ | 2025
   Thesis: Foundational Models and Masked Learning for efficient Medical Object Detection.

2. Rajes Manna* | 2025
   Thesis: Source Free Domain Adaptation using Adversarial Class Aware Teacher.

3. Asrar ul Haq | 2024
   Thesis: Transformer-Based Unsupervised Domain Adaptation in a Federated Setup.

HONORS and AWARDS

- Nominated as Diversity Intern by Microsoft Canada.
- Honorable mention by IIT Delhi for research contributions during my Master's degree.
- Awarded MICCAI 2024 Travel Grant.
- Awarded IIT Delhi Endowment Grant 2024
- Won India's largest National Entrepreneurship Challenge at IIT Bombay.
- Gold Microsoft Student Learn Ambassador for NIT Srinagar.

TECHNICAL SKILLS

Languages: Python, C, C++, MATLAB, SQL, HTML/CSS, Javascript
Frameworks: PyTorch, TensorFlow, Keras, Scikit-Learn, OpenCV, HuggingFace, Flask
Developer Tools: Git, Docker, VS Code, Visual Studio, PyCharm, Linux

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EXTRACURRICULAR and SOCIAL ACTIVITIES

Gold Microsoft Student Learn Ambassador
Actively promoted technology learning and fostered a community of student developers in Kashmir.
Organized workshops, webinars, and hackathons to encourage student innovation and collaboration.

Founder Ralith Milth
Established an NGO focused on raising awareness and support for drug abuse prevention and rehabilitation.
Spearheaded community outreach programs with local organizations to support affected individuals.

Co-founder AT Talks
Hosting a podcast discussing the intersection of technology and society, featuring expert insights. Managed
guest interviews, content strategy, and promotion to grow the podcast's reach and impact.

REFERENCES

Prof. Salman Khan ⊠   Prof. Rao Anwer ⊠
Prof. Chetan Arora ⊠   Prof. Krithika Rangarajan ⊠
Prof. Iqra Altaf Gillani ⊠   Prof. Janibul Bashir ⊠