

Hritam Basak

Stony Brook, New York, 11790

✉ hritam.basak@stonybrook.edu |  [Google Scholar](#) |  [LinkedIn](#) |  [hritam-98.github.io](https://github.com/hritam-98)

RESEARCH INTERESTS

Broad interest: Computer Vision, Deep Learning, Medical Image analysis

Specific interest: Annotation-efficient Learning, Image Segmentation, Domain Adaptation, Optimization

EDUCATION

Stony Brook University

Doctor of Philosophy (Ph.D.) in Computer Science | Grade : 3.89/4

Aug. 2022 – Present

New York, USA

Jadavpur University

Bachelor of Engineering in Electrical Engineering | Grade : 8.9/10

Jul. 2017 – May 2021

Kolkata, India

EXPERIENCE

Graduate Research Assistant

Stony Brook University – Advisor: Dr. Zhaozheng Yin

Jan. 2023 – Present

New York, USA

- Summarized medical applications of computer vision encompassing semi-supervised and contrastive representation learning using minimal annotations ($\leq 10\%$).
- Proposed novel pipeline by utilizing pseudo-labels in contrastive learning, which outperformed state-of-the-art methods by $\sim 5\%$ DSC score.
- Published research papers at CVPR 2023, MICCAI 2022 and 2023, ICASSP 2023 with acceptance rates of 24.8%, 13%, 27%, and 42%, respectively.

Data Scientist

Tata Digital Limited

Jun. 2021 – Jul. 2022

Mumbai, India

- Engineered a visual search engine for fashion recommendations using RCNN for foreground extraction and pre-trained ResNet for feature extraction, achieving over 96% accuracy.
- Designed a promotion recommendation algorithm for 80M customer groups employing Churn and CLTV, and collaborative filtering.

Research Internship

ETH Zurich – Advisor: Dr. Luc Van Gool

May 2020 – Aug. 2020

Zurich, Switzerland

- Guided a team of 5 undergraduate students to execute cross-image context mining for label-efficient semantic segmentation employing neural co-attention.
- Collaborated on cross-image pixel contrast project to enforce pixel embeddings belonging to the same semantic class to be more similar than embeddings from different classes.

TECHNICAL SKILLS

Languages: Python, MATLAB, Java, C/C++, SQL, JavaScript, HTML/CSS

Libraries: Pytorch, TensorFlow, OpenCV, Pandas, NumPy, Matplotlib

ACHIEVEMENTS/AWARDS

- **IEEE SPS Grant, 2023** for presenting work at IEEE ICASSP (Acceptance Rate - 1%).
- **MICCAI STAR Award, 2022** for exhibiting research at MICCAI (Acceptance Rate - 11%).
- **Charpak Fellowship, 2020** for Summer Research Internship in France (Acceptance Rate - 28%).

SELECTED PUBLICATIONS

- *H Basak*, Z Yin. Pseudo-label Guided Contrastive Learning for Semi-supervised Medical Image Segmentation, **CVPR 2023**
- *H Basak*, Z Yin. Semi-supervised Domain Adaptive Medical Image Segmentation through Consistency Regularized Disentangled Contrastive Learning, **MICCAI 2023** [Early Accept: top 13%]
- *H Basak*, S Chattopadhyay, R Kundu, S Nag, R Mallipeddi. Ideal: Improved Dense Local Contrastive Learning For Semi-Supervised Medical Image Segmentation, **IEEE ICASSP 2023**
- *H Basak*, S Ghosal, R Sarkar. Addressing Class Imbalance in Semi-supervised Image Segmentation: A Study on Cardiac MRI, **MICCAI 2022**