SOUMYAJIT KARMAKAR
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EDUCATION

University of California San Diego 2024 - 2026
Master of Science in Computer Science and Engineering.
Thesis Advisor: Prof. Mikhail (Misha) Belkin.

Indian Institute of Information Technology, Guwahati 2019 - 2023
Bachelor of Technology in Computer Science and Engineering.
CGPA: 9.35/10.00 (Silver medalist)

RESEARCH EXPERIENCE

Indian Institute of Science, Bengaluru
Vision and AI Lab (VAL)
Project Assistant - Advisor : Prof. R. Venkatesh Babu September 2023 - August 2024
- Worked on CLIP-based image retrieval, that shows improved Out-of-Distribution generalizability and robustness.

International Institute of Information Technology, Hyderabad
Center for Visual Information Technology (CVIT)
Research Fellow - Advisor : Prof. C. V. Jawahar January 2023 - August 2023
- Worked on a project developing Diffusion Models for various downstream tasks such as semantic segmentation especially for the urban road settings.

University of North Carolina at Charlotte, North Carolina
Research Intern - Advisor : Dr. Srijan Das and Dr. Michael S. Ryoo August 2022 - March 2023
- Developed a joint training framework using a Self-Supervised Auxiliary Task (SSAT) to enhance the performance of ViTs on small datasets.

CSIR-CEERI Pilani, Rajasthan
Advanced Information Technologies Group (AITG)
Research Intern - Advisor : Dr. Sanjay Singh May 2022 - July 2022
- Developed a novel few-shot learning framework, using a Convolution based ensembling technique, for anomaly detection.

ACHIEVEMENTS

- **Global Rank 1** (student category), in the Parameterized Algorithms and Computational Experiments (PACE) 2022 (Heuristic Track). Link for the paper. Link for the solver.

PUBLICATIONS

- **Soumyajit Karmakar***, Shrinivas Ramasubramanian*, Harsh Rangwani*, Yasuhiro Aoki, Genta Suzuki, Venkatesh Babu. "Prompt-ReID: Prompt Based Inference for Robust Re-Identification". *(Pre-print)*

- Srijan Das, Tanmay Jain, Dominick Reilly, Pranav Balaji, **Soumyajit Karmakar**, Shyam Marjit, Xiang Li, Abhijit Das, Michael Ryoo. "Limited Data, Unlimited Potential: A Study on ViTs Augmented by Masked Autoencoders". In Proceedings of the 2024 IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**) 2024, Waikoloa, Hawaii, USA.

- **Soumyajit Karmakar**, Abeer Banerjee, Prashant Sadashiv Gidde, Sumeet Saurav, Sanjay Singh. "Convolutional Ensembling based Few-Shot Defect Detection Technique". In Proceedings of the 2022 Indian Conference on Computer Vision, Graphics and Image Processing (**ICVGIP**), IIT Gandhinagar, India.

- Aman Jain, Sachin Agarwal, Nimish Agrawal, **Soumyajit Karmakar**, Srinibas Swain. "Feedback vertex set using Edge Density and REmove Redundant (FEDRER): A heuristic solver for finding a feedback vertex set in a directed graph" . In poster session of the 2022 International Symposium on Parameterized and Exact Computation (**IPEC**), Potsdam, Germany.