

Mithun Parab

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Education	Master of Science Computer Science 07/22 – 07/24 R. J. College, Mumbai, India, CGPA: 8.88/10.00 Bachelor of Science Information Technology 07/19 – 07/22 K. J. Somaiya College Of Science And Commerce, Mumbai, India, CGPA: 9.07/10.00
Experience	Sejong University, Seoul, South Korea Research Intern Dr. YG. Kim & Dr. Palash Ingle 04/24 – 10/24 Advance video anomaly detection technologies by developing robust models to identify and analyze anomalies in video data. Indian Institute of Information Technology, Sri City, India Research Intern Dr. Pavan Kumar B.N., Department of CSE, 09/23 – 03/24 Improved 3D SLAM precision and effectiveness using uncalibrated image-based algorithms.
Selected Publications	A Comprehensive Study on LLM Agent Challenges , Palash Ingle, Mithun Parab , Pranay Lendave, B. N. Pavan Kumar, AAAI 2024 Spring Symposium on User-Aligned Assessment of Adaptive AI Systems. MT3DNet: Multi-Task Learning Network for 3D Surgical Scene Reconstruction Mithun Parab , Pranay Lendave, Jiyoung Kim, Palash Ingle, Thi Quynh Dan Nguyen https://doi.org/10.48550/arXiv.2412.03928 Innovative Method for Camouflaged Wildlife Segmentation in Agricultural Practices , Mithun Parab , Palash Ingle, <i>IEEE Xplore Digital Library</i> , International Conference on Advancement in Computation & Computer Technologies, 10.1109/InCACCT61598.2024.10551184 Image Enhancement and Exposure Correction Using Convolutional Neural Network , Mithun Parab , Amisha Bhanushali, Palash Ingle, B. N. Pavan Kumar, <i>SN Computer Science</i> , Volume 4, Number 2, 2023, doi: 10.1007/s42979-022-01608-w
Projects	Tetris-Inspired Video Synopsis A MCTS algorithm with a shared-backbone neural network for policy & value optimization, efficiently packing 3D tubes to reduce the time dimension in video synopsis. Unsupervised Video Anomaly Detection with Zero and Few-Shot Learning A transformer-based model with time and spatial attention mechanisms for extracting spatiotemporal features, trained unsupervised to predict future frames and compute anomaly scores. DINO-v2-based Method for Video Anomaly Detection A DINO-v2-based approach for video anomaly detection, using feature embeddings and prototype learning to group similar patterns while pushing apart different ones. 3D Novel View Synthesis from Un-calibrated Images A system for synthesizing new 3D views from un-calibrated images, using a NeRF model optimized for Structure from Motion challenges via distinct MLP modules. 3D Video Synopsis with Multi-task Learning A condensed video synopsis algorithm and Multi-Task Learning network for abnormal activity segmentation and depth mapping, facilitating 3D video summary reconstruction.
Scholastic Achievements	Presented at the International Conference on Advancements in Computational and Computer Technologies. (2024) Achieved a perfect 10/10 GPA in the last semester and maintained above a 9/10 GPA in the first year of my master's program. (2024) Awarded the Best Paper of the International Conference on Adaptive Computational Intelligence (ICACI 2022). (2022)
Skills & Interests	Languages: C,C++, Java, Julia, Python, R Tools: L ^A T _E X, Bash, Matlab, GNU Octave, Git Technologies: AWS, Docker, Kafka Interests: ML, CV, LLM agents