



VIDEO AND IMAGE  
COMPUTING  
LAB

Video and Image Computing  
Laboratory (VIC Lab)

#### Contact information

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■ Team VIC LAB (2025 Fall Semester) - Postdoctoral Fellows : 1 Ph.D. Students: 26 Master's Student: 1

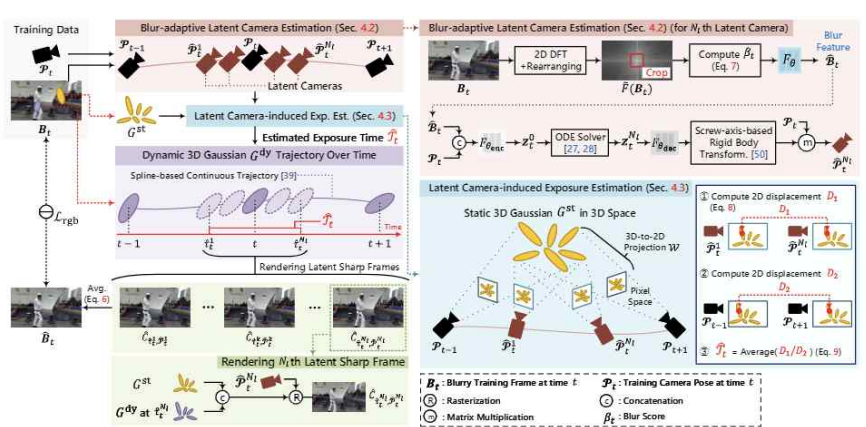
#### Research Areas – Deep Learning and Generative AI for Computer Vision

- **Natural image and video restoration** : super-resolution, frame interpolation, SDR-to-HDR inverse tone mapping, image in-painting, depth estimation, image deraining, image dehazing, video motion deblurring.
- **3D/4D image/video reconstruction** : Optical Flow Estimation, Camera Pose Estimation, Dynamic Neural Radiance Field (NeRF) and Gaussian Splatting Learning of video for Novel View Synthesis.
- **Satellite image processing, analysis and understanding** : PAN Sharpening, Cloud removal of Electro-Optical (EO) images, Super-Resolution, Detection/Classification of SAR image targets, SAR-to-EO image-to-image translation learning, etc.
- **Generative AI for Image/Video Generation and Editing** : Object-based local region editing for images, object-based spatio-temporal local region editing for video, context-/semantic-compliant embedded text editing in images.

#### Image/Video Restoration and Quality Enhancement (영상 복원 및 화질 향상을 위한 딥러닝 기술 연구)



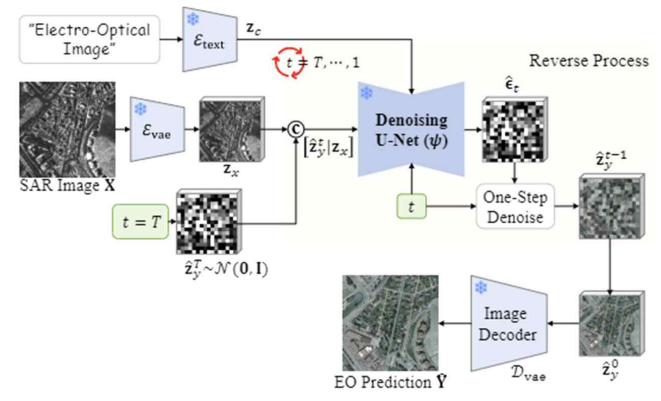
#### 3D/4D Gaussian Splatting for 3D Scene Reconstruction (3/4차원 정적/동적 장면 공간영상 생성 및 렌더링 연구)



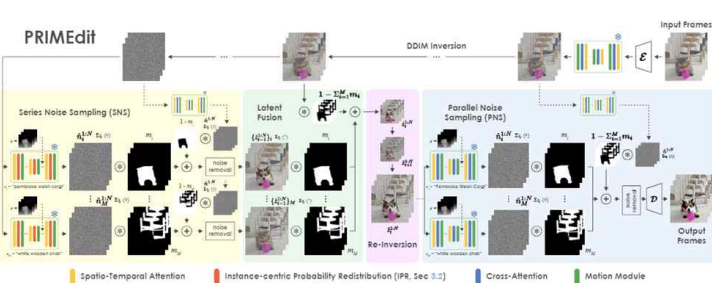
#### SAR/EO Satellite Image Analysis (위성 영상 분석/이해를 위한 딥러닝/기계학습 연구: 표적 탐지/식별, 영상 변환, 화질 개선)

CANConv (CVPR 2024)

U-Know-DiffPAN (Ours)



#### Diffusion based Generative AI for Image/Video Generation/Editing (이미지/비디오 생성/편집을 위한 생성형 확산 모델 연구)



■ **Recommended courses / Career after graduation** : Computer vision, image processing, generative AI, machine/deep learning. After graduation, students often work with global companies, start-ups, academia and research institutes.

#### Collaborations.

VIC Lab aims to send out leaders with expertise in computer vision, image processing and deep/machine learning. VIC Lab very actively collaborates with academia and industry in the fields of fundamental and hot research topics.

#### Recent research achievements for Published Papers (2024-2025)

CVPR2025 (5), CVPR2024 (3), ECCV2024 (1), IEEE TGRS (2), IEEE TPAMI (1), IEEE TIP (1), IEEE TMM (1), IEEE ACCESS (1)