

CENTER FOR COMPUTER VISION RESEARCH

Next Generation Al Enabled



## **Internship Modules for Engineering students**

Eligible: Engineering students, No pre-requisite Resources @ the center

- 1. Workstations -Intel<sup>®</sup> Core<sup>™</sup> i9-10900K(10 Core) Nvidia Quadro P620
- 2. JETSON NANO Developer Kits (GPU)
- 3. Cameras (IR, Bullet, IP, Body Worn, PTZ, Wi-Fi Bullet)
- 4. Turbo HD DVR DS-7400 Series
- 5. Luxriot Video Management and Analytics Software

Projects that can be undertaken @ the Centre for Computer Vision RVCE

- 1. Visual Question Answering (VQA) on Medical Images: Develop models that can answer detailed questions about medical images, such as X-rays or MRIs.
- 2. Construction Progress Monitoring Using Aerial Imagery: Utilize high-resolution aerial images to monitor and analyze construction site progress.
- **3.** Robotic Task Planning from Human Demonstrations: Enable robots to learn tasks through human demonstrations captured in videos.
- 4. Cross-Modal Retrieval Using CLIP: Develop systems that can retrieve images based on textual descriptions and vice versa. Implement Contrastive Language-Image Pre-training (CLIP) to align visual and textual data in a shared latent space.
- 5. A computer vision based IV fluids and drip monitoring system at patient's bedside
- 6. Automatic vehicle collision detection on roads/highways by surveillance cameras.
- 7. Automated product placement in video
- 8. Color Detection & Invisibility Cloak
- 9. Industrial workers safety inspection related to PPE by surveillance cameras
- 10.Automatic fire and smoke detection by surveillance cameras
- 11. To build an Automatic Human Pose detection system.
- 12.Subject detection in video
- 13.To develop a People Count mechanism by capturing camera images
- 14. Machine Vision (Inspection Systems)
- 15.Non-Contact Measurements
- 16.Flaw Detection
- 17.Video Summarization and Synopsis
- 18. Environment Watch and Safety





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## **Internship Modules for Engineering students**

## **Industry Partners**

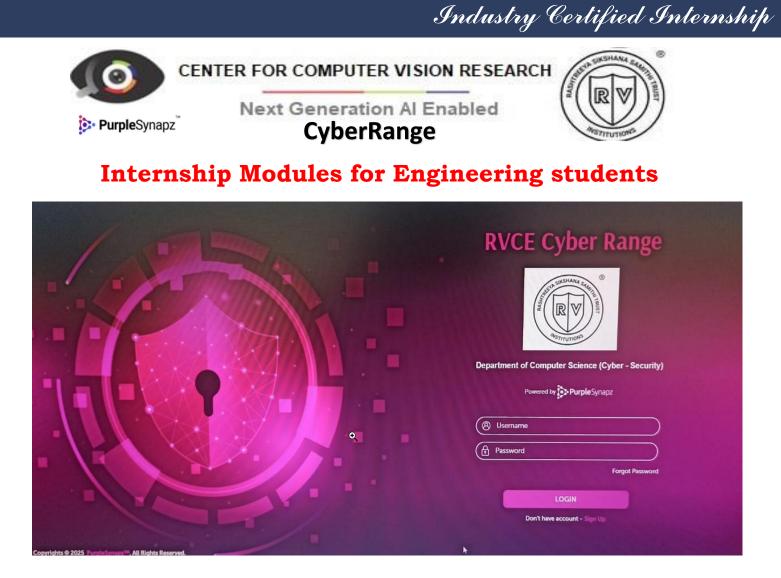


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# Projects that can be undertaken @ the Centre for Computer Vision and CyberRange RVCE

- 1. ML-Based Malware Family Classification
- 2. Phishing Email Detection Using NLP
- 3. Unsupervised Anomaly Detection in Network Traffic
- 4. Adversarial Attack & Defense on Image-Based CAPTCHA
- 5. Explainable AI for Intrusion Detection Alerts
- 6. Automated Vulnerability Summary Generation with Transformer Models





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# **Industry Partners**





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