NARASARAOPETA ENGINEERING COLLEGE (AUTONOMOUS)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

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Batch Number	AB-7
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Guide	M Sathyam Reddy
Title	**U-ASD Net: Supervised Crowd Counting Based on Semantic Segmentation and Adaptive Scenario Discovery**
Domain/Technology	Deep LEARNING
Base Paper Link	https://ieeexplore.ieee.org/document/9536723
Dataset Link	https://www.kaggle.com/datasets/hosammhmdali/shanghai-tech-dataset-part-a-and-part-b
Software Requirements	Browser: Any latest browser like Chrome Operating System: Windows 7 Server or later Python
Hardware Requirements	System Type: Intel Core i5 or above RAM: 8 GB Number of cores:5 Number of Threads: 4
Abstract	Crowd counting from images is vital for security, crowd control, and smart video security. Shunting Inhibition Network (SINet) is an approach that uses segmentation with biologically inspired processes but its shallow encoder does not allow for extracting enough features in very crowded or complex scenes. To improve on this, we replace the SINet encoder with EfficientNet-B4, a much deeper and more expressive encoder trained on a large collection of images. The model keeps the same decoding design as the original, but the stronger encoder can better extract features and be better at dense scenes. On the ShanghaiTech Part-A data, EfficientSINet-B4 gets a mean absolute error (MAE) of 36.4 and a root mean squared error (RMSE) of 85.4, beating the original SINet (52.3 MAE, 87.6 RMSE). These results show that using a better encoder can greatly improve the crowd counting models.

Signature of the student(s) **Signature of the Guide** **Signature of the project coordinator**