CEN 462 - Introduction to Computer Vision

Artificial Intelligence Project Report Template (Max: 2-3 pages)

# 1. Project Title and Objective

- Project Name:

- Brief Description: What is the goal of the project? What problem does it aim to solve?

# 2. Dataset Information

- Source of dataset (e.g. Kaggle, public dataset, self-collected, sensors):

- Did you create your own dataset?

- Did you perform manual annotation? If yes, describe how.

- Dataset size (e.g., number of images, number of classes):

- Dataset split (e.g., 70% train, 15% validation, 15% test):

# 3. AI Model Used

- Model type (e.g., YOLOv5, U-Net, ResNet, MobileNet, ViT):

- Was the model trained from scratch or fine-tuned?

- If a pre-trained model was used:

 - Which pre-trained model?

# 4. Training Process and Hyperparameters

- Framework used (e.g., PyTorch, TensorFlow, Keras, Ultralytics YOLO):

- Training duration:

- Number of epochs:

- Batch size:

- Learning rate:

- Optimizer used:

- Data augmentation applied (e.g., rotation, flipping, blurring):

- Challenges encountered and how they were solved (if any):

# 5. Evaluation and Performance Metrics

- Evaluation metrics used (e.g., Accuracy, mAP, F1-score, IoU):

- Test results summary:

- Was overfitting or underfitting observed?

- Additional visuals (e.g., confusion matrix, sample outputs – optional):

# 6. Codebase and Infrastructure

- If a GitHub repository was used, provide the link:

- If code was written from scratch, summarize components:

- Hardware used for training (e.g., local PC, Google Colab, GPU specs):

# 7. Additional Notes and Learnings

- Key things learned during the project:

- What could be improved or done differently?

- Potential directions for future improvement: