

Experience Report

Challenges Faced

Debugging Loss: Initial training runs showed NaN losses due to incorrect loss scaling.

Resource Constraints: Training on a local GPU required batch size adjustments.

AI Assistance

Code Generation: Used ChatGPT to generate anchor matching logic and NMS code.

Debugging: AI tools helped identify dimension mismatches in tensor operations.

Key Learnings

Understanding multi-scale feature maps and their role in object detection.

Importance of data preprocessing and augmentation in model performance.

AI vs. Manual Coding

AI tools accelerated boilerplate code but required careful validation. Critical components like loss functions were coded manually for deeper understanding.