Change Detection Methods Comparison Report

Executive Summary

This report compares 3 change detection methods: Basic Computer Vision, Advanced Computer Vision, Deep Learning Inspired. The fastest method was Advanced Computer Vision (0.059s), while Advanced Computer Vision detected the most changes (809,913 pixels). The overall agreement between methods is low.

Methods Overview

Method	Change Pixels	Regions	Processing Time (s)	Avg Confidence
Basic Computer Vision	233,235	259	0.095	N/A
Advanced Computer Vision	809,913	1	0.059	0.155
Deep Learning Inspired	202,165	208	0.313	0.440

Performance Comparison

Method	Speed Rank	Change Detection Rank	Overall Score
Basic Computer Vision	#2	#2	2.0
Advanced Computer Vision	#1	#1	1.0
Deep Learning Inspired	#3	#3	3.0

Inter-Method Agreement

Overall Agreement Metrics:

- Mean IoU: 0.299
- Mean Jaccard Similarity: 0.299
- Agreement Level: Low

Consensus Analysis:

- Full Agreement: 19.7% of pixels
- Partial Agreement: 701,506 pixels

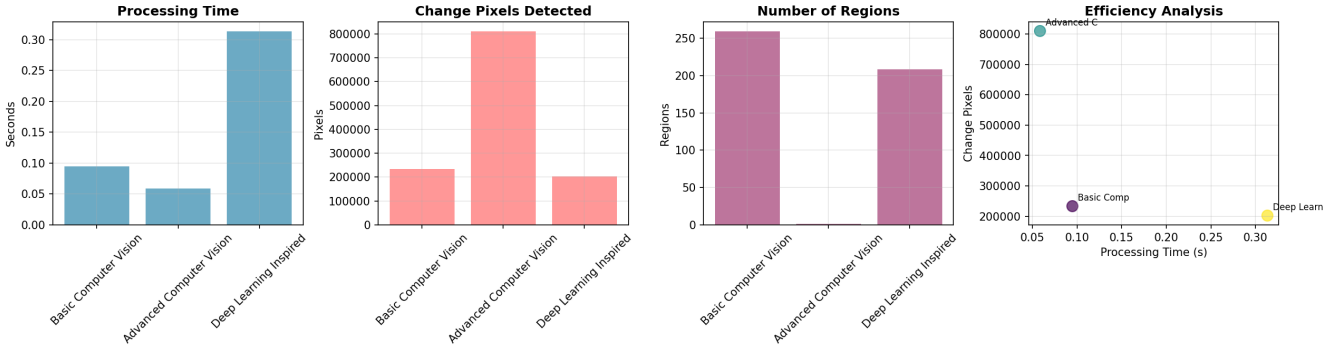
- Consensus Mean: 0.475

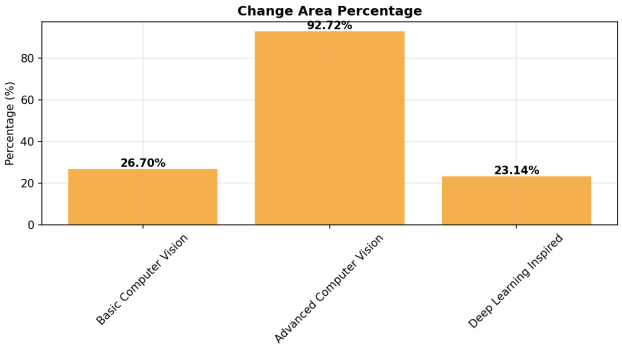
Recommendations

For fastest processing, use Advanced Computer Vision. For maximum sensitivity, use Advanced Computer Vision. Consider using multiple methods and ensemble voting due to low agreement.

Comparison Visualizations

Change Detection Methods - Comprehensive Comparison Dashboard





Summary Statistics

Method	Time (s)	Pixels	Regions	Area (%)	Efficiency
Basic Computer	0.095	233,235	259	26.70%	2458442
Advanced Comput	0.059	809,913	1	92.72%	13824765
Deep Learning I	0.313	202,165	208	23.14%	645338

Report generated on 2025-08-24 20:13:51