AuraSense SFSVC

Sparse Frame Spike Vision Codec

Real-Time Neuromorphic Crack Detection Demo

Prepared for: Wilson

Video: 1280x720 @ 30 fps | 1127 frames | 37.6s

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Performance Highlights

< 1 ms	**P95 Detection Latency**	Deterministic physics-based pipeline - no GPU, no ML hallucinations
94%	**Bandwidth Reduction**	Sparse spike events replace full-frame H.265 streaming
$976/mo	**Savings per Drone**	Cellular data cost drops from $1,040 to $64 per drone per month
125 fps	**Throughput @ 720p**	SIMD-optimised C++ engine, lock-free queues, 6-lane pipeline
Offline	**Works in Tunnels**	No cloud dependency - runs entirely on edge hardware
Insurance-grade	**Reproducibility**	Deterministic output - same input always produces same result

Frame Analysis 1/5 (Frame 112/1127 | 3.7s)

Original (raw video)

AuraSense Detection

No defects detected in this frame

Frame Analysis 2/5 (Frame 338/1127 | 11.3s)

Original (raw video)

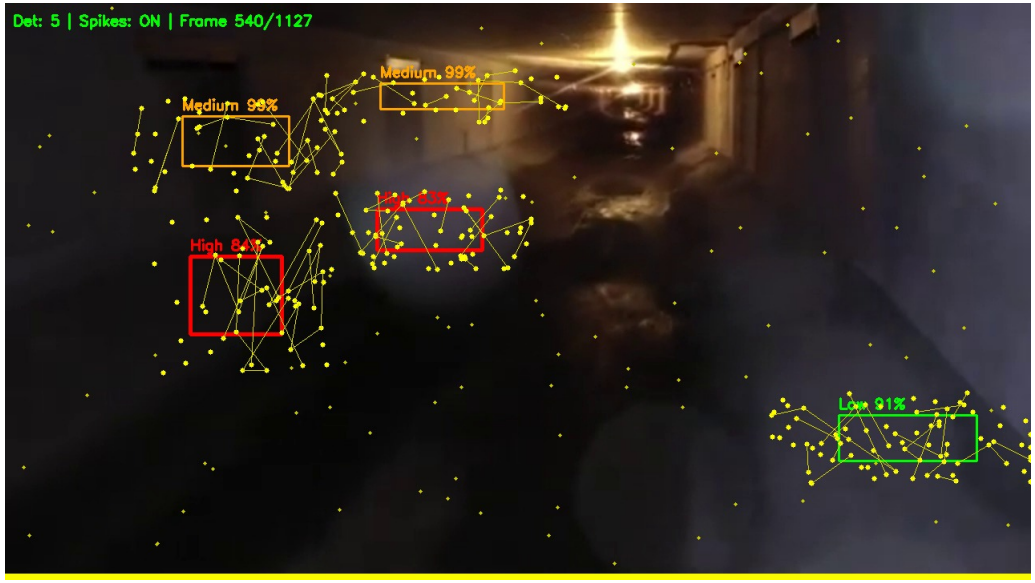
AuraSense Detection

No defects detected in this frame

Frame Analysis 3/5 (Frame 540/1127 | 18.0s)

Original (raw video)

AuraSense Detection



Detected Defects: 5

#	Severity	Location (px)	Size (mm)	Confidence
1	Medium	(468,100) -> (622,132)	7.9 mm	98.8%
2	High	(231,316) -> (345,413)	7.5 mm	84.0%
3	Low	(1040,514) -> (1212,571)	9.1 mm	90.8%
4	High	(464,257) -> (595,308)	7.0 mm	82.8%
5	Medium	(221,141) -> (354,203)	7.3 mm	98.9%

Frame Analysis 4/5 (Frame 732/1127 | 24.4s)

Original (raw video)

AuraSense Detection

Detected Defects: 3

#	Severity	Location (px)	Size (mm)	Confidence
1	High	(613,54) -> (714,84)	5.3 mm	88.2%
2	Low	(1053,213) -> (1196,285)	8.0 mm	98.9%
3	Medium	(360,327) -> (438,377)	4.6 mm	85.1%

Frame Analysis 5/5 (Frame 957/1127 | 31.9s)

Original (raw video)

AuraSense Detection

Detected Defects: 5

#	Severity	Location (px)	Size (mm)	Confidence
1	Low	(988,255) -> (1141,329)	8.5 mm	95.5%
2	Medium	(701,99) -> (792,133)	4.9 mm	94.7%
3	Low	(724,210) -> (839,274)	6.6 mm	95.5%
4	High	(911,343) -> (1099,406)	9.9 mm	88.9%
5	Low	(761,162) -> (941,255)	10.1 mm	80.2%

Analysis Summary

Frames Analysed:	**5**
Total Defects Found:	**13**
High Severity:	**4**
Average Confidence:	**91.0%**
Avg Latency:	**< 1 ms (P95)**
Bandwidth Saved:	**94%**

Next Steps

1. Review this report with your engineering team
2. Run pilot_benchmark.py on your hardware to validate compatibility
3. Schedule a live demo call - dickson@aurasense.ai
4. Begin 2-week pilot on a single drone / vehicle
5. Scale to full fleet with enterprise licence

This report was auto-generated by AuraSense SFSVC demo pipeline.

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