



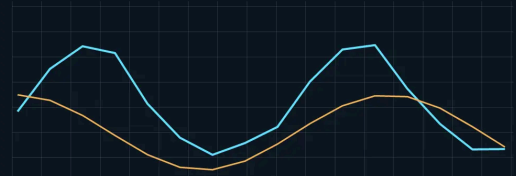
## Validation infrastructure for maritime EO/IR perception

Validation infrastructure connecting synthetic V&V, surrogate capture sessions, seeker-like measurement replay, and GNC/test-team reporting — for maritime autonomy and sensor-fusion teams.

Synthetic · surrogate · replay · validation

### Measurement Quality Timeline

SYNTHETIC VALIDATION ARTIFACT



#### PROBLEM

Maritime EO/IR perception degrades under visibility shifts, sea clutter, channel dropout, channel disagreement, and confidence uncertainty. Validation work needs controlled variation, traceable measurements, and reviewable artifacts.

#### PLATFORM

- Synthetic scenarios and deterministic telemetry replay
- Surrogate EO/IR capture through annotation and measurement extraction
- EO/IR measurement quality and fusion-policy analysis
- Seeker-like measurement replay and GNC/test export
- Severity-scored replay review with deterministic bookmarks
- C++ observation-geometry foundation for future 3D validation workflows

#### FOUNDER



#### Talha Isik

Computer vision and real-time systems engineer with experience in maritime autonomy, EO sensing, sensor fusion, and embedded perception systems.

Previously worked on autonomous maritime perception and sports-tracking systems combining computer vision and radar telemetry.

#### DEMO HIGHLIGHTS

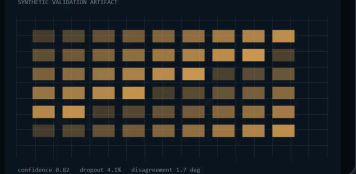
- 120-second synthetic maritime observation showcase
- Real EO shoreline capture through the same validation pipeline
- Measurement quality timeline with confidence and validity traces
- EO/IR bearing comparison and channel disagreement review
- Degraded visibility validation across fog, glare, clutter, dropout, and channel disagreement
- Validation showcase with replay review, availability timelines, disagreement bursts, and scenario diff artifacts

Demonstrated on synthetic showcase data and an EO-only surrogate capture workflow: real shoreline video → reviewed annotations → bearing/elevation measurements → replay review artifacts.

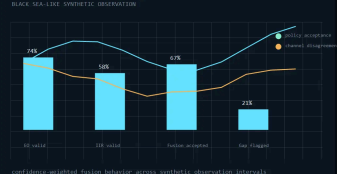
#### Bearing Comparison



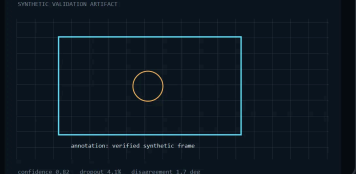
#### Environment Sweep Summary



#### Fusion Policy Summary



#### Annotation Preview



#### ROADMAP

- Expanded surrogate EO/IR hardware capture (controlled, benign)
- Harden partner-facing session schemas and capture session manager
- Maritime measurement degradation and sensitivity sweeps
- Partner POCs around seeker-like replay and GNC/test reporting
- Generic 3D/6DOF validation core later

#### SCOPE

Non-operational validation infrastructure only. No weapon design, targeting, launch/deployment behavior, terminal attack logic, or operational engagement software.

#### CONTACT



[talha@euxinelabs.com](mailto:talha@euxinelabs.com)

Request the full technical brief or schedule a walkthrough.