

AVCR

History-, geometry-, and intervention-aware control software for future cortical visual prostheses

Hub71+ Life Sciences - Cohort 20

MedTech / Digital Health / AI Safety

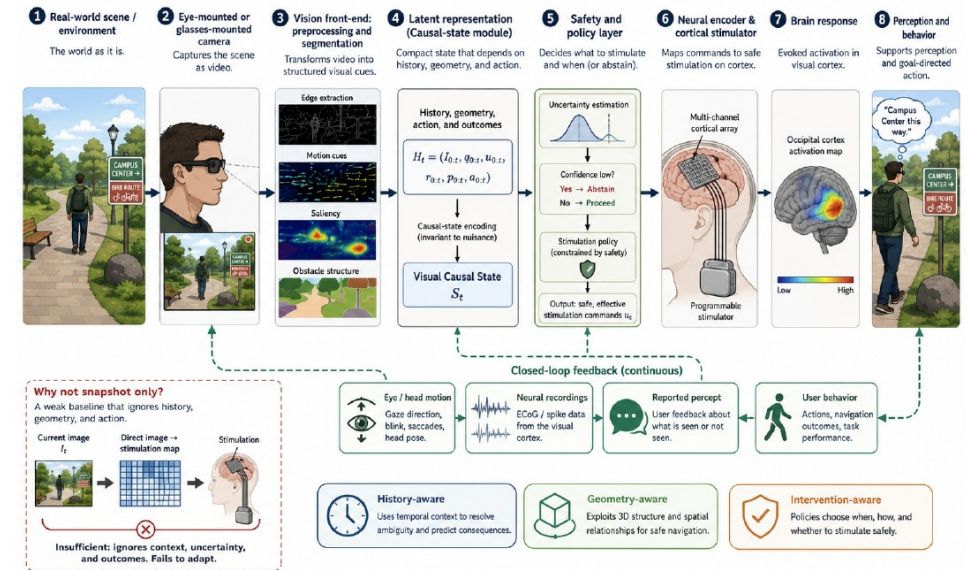
Ask

AED 250k cash + AED 250k incentives to build AVCR's non-clinical HIL and clinical-readiness bridge in Abu Dhabi.

Founder: Esmaeil Farshi | Company: Anahita | Email: farshi@technologist.com

Website: <http://fqxonline.com/> | Funds raised to date: USD \$1.5M | Submission-ready package: 2 August 2026

Closed-loop artificial vision architecture: from eye to brain and back

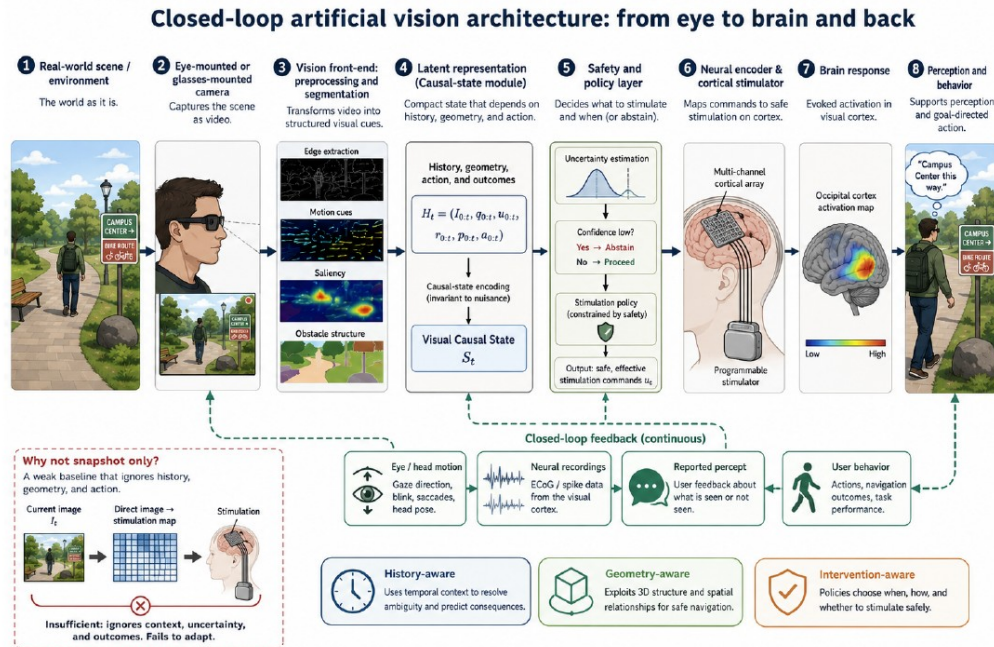


The problem: cortical vision cannot be treated as pixel writing

Existing cortical-vision systems can evoke phosphenes, but useful perception is a closed-loop control problem.

WHY THIS MATTERS

- Phosphene location and quality depend on person, gaze, recent stimulation, map, device state and task.
- Snapshot image-to-current mappings can erase causal history that affects future percepts.
- Clinical translation needs safe abstention, provenance, uncertainty and evidence gates, not only model accuracy.
- Global unmet need in vision impairment is enormous; advanced restoration remains a high-impact frontier.



AVCR addresses the control layer: when to stimulate, when to abstain, and what history must be preserved before acting.

Solution: decision-certified causal reconstruction

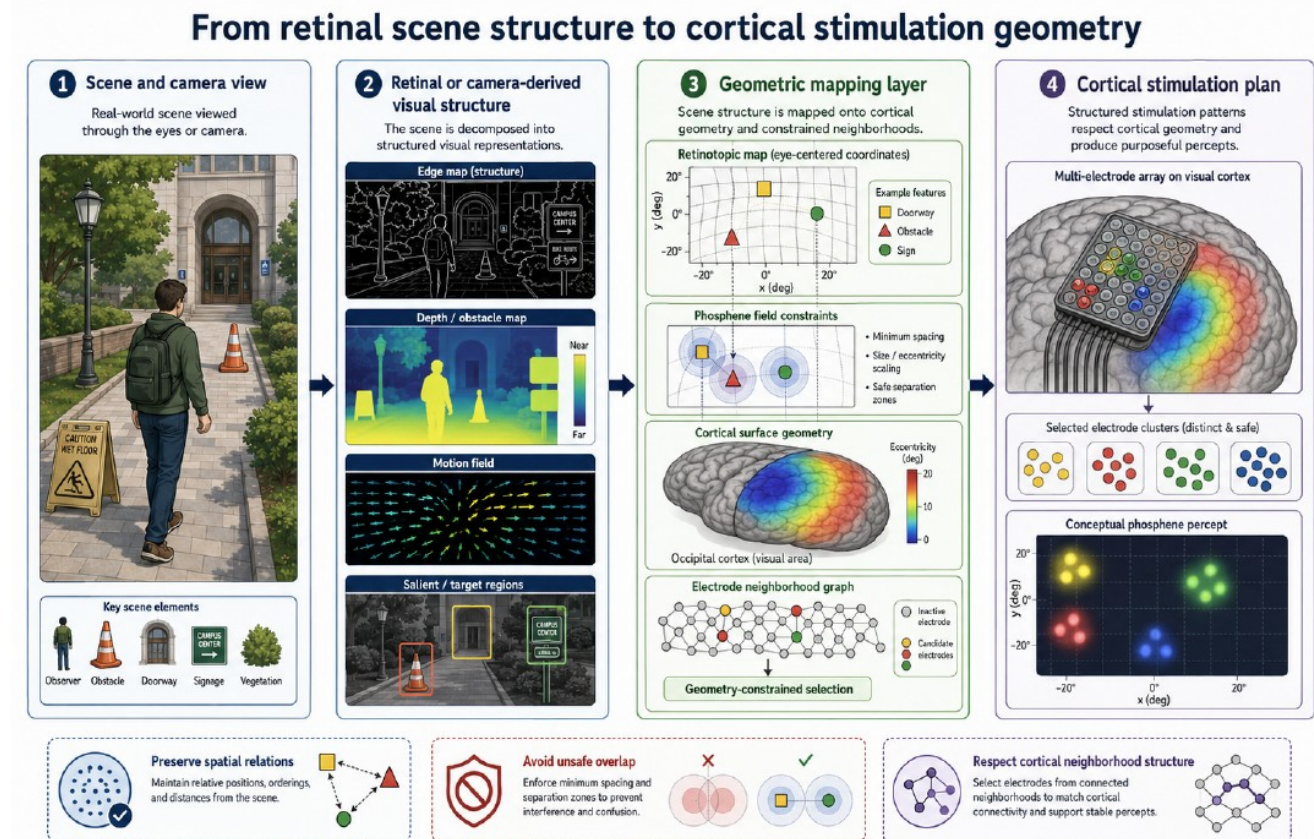
A software control layer that preserves task-relevant history and geometry before commands reach a future stimulator.

1. Reconstruct

- Scene, gaze, device state, stimulation history and feedback are linked into a query-specific state.

2. Certify

- Residual uncertainty and response-diameter gates determine act vs abstain.



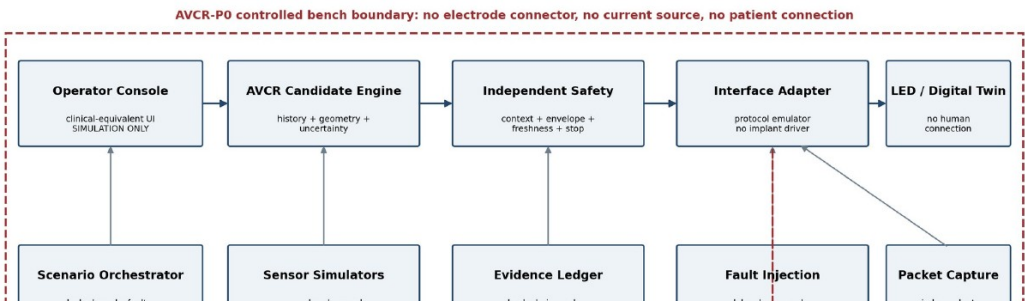
Product now: P0-B safe bench prototype

A non-human, non-stimulating physical-HIL bridge from theory to regulatory-grade evidence.

CURRENT STATUS

- Founder-reported P0-B assembly/build is complete or underway; bench evidence packet is being locked.
- Tests: E-stop, watchdog, power recovery, eight-channel timing, logs, firmware hash, serial numbers and photos.
- P0-B has no current source, no electrode connector, no patient connection and no clinical-use authority.
- P1 will add sponsor-specific engineering interface after partner review.

5. System architecture



Hub71 use: turn P0-B into an independently verified P1/HIL readiness package and Abu Dhabi clinical-feasibility program.

Evidence and traction: from Perspective to executable system

AVCR is not an efficacy claim; it is an evidence-driven control architecture with a buildable path.

v20

JNE-targeted Perspective manuscript

20

simulator / test-harness models

P0-B

bench prototype stage

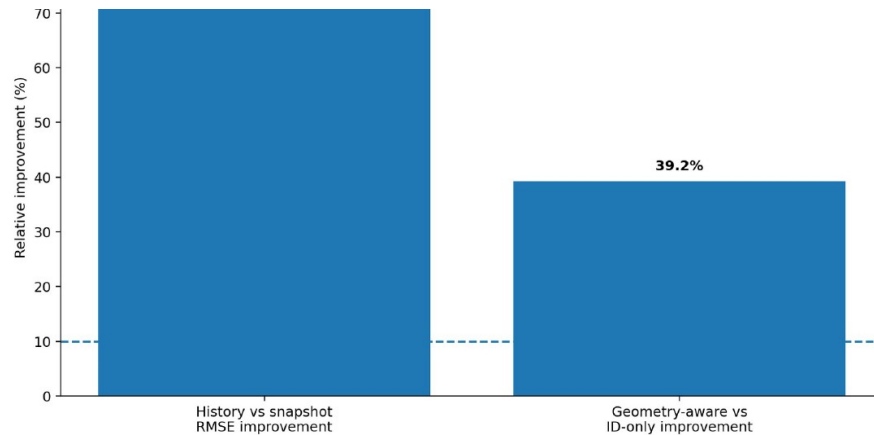


Figure 5. Current manufactured-solution benchmark. Values are not clinical performance estimates.

Metric	Observed value	Provisional rate	Verdict
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WHAT THE MANUSCRIPT SUPPORTS

- Temporal order and local cortical geometry matter in published human component evidence.
- AVCR defines the safety boundary: act only inside authorized support; abstain under novelty or uncertainty.
- Prospective AVCS-1 validation remains the next clinical/scientific milestone.

Boundary: no new human stimulation, no clinical efficacy, no patient deployment yet.

Market wedge: vision restoration and neurotechnology safety infrastructure

Start with clinical-readiness tools; expand toward regulated control software for cortical visual prostheses.

Initial buyer / partner

- Neuroprosthesis teams
- Implant manufacturers
- Clinical trial sponsors
- Regulatory / V&V groups

First productized wedge

- HIL and evidence ledger
- Safety supervisor
- Act/abstain engine
- Protocol-ready analytics

Impact context

WHO estimates at least 2.2B people live with near or distance vision impairment; advanced restoration is a specialized, high-impact frontier within a much larger eye-care challenge.

Source: WHO blindness and vision impairment fact sheet.

Business model: de-risk clinical translation before regulated deployment

Monetize as a safety/evidence/control platform before any human-use claim.

Phase	Customer	Revenue motion
P0/P1	Research groups, neurotech startups, trial sponsors	HIL build + verification package + consulting
P1/P2	Implant companies and clinical study sponsors	Annual software license + integration support
Regulated	Device manufacturers / strategic acquirers	Enterprise license, co-development, or acquisition

PRICING HYPOTHESIS

- Pilot verification package: \$75k-\$150k
- Annual platform license after P1: \$250k-\$500k
- Strategic co-development or acquisition if integrated into a parent platform

3.1 P0 intended use

AVCR-P0 is intended to support non-clinical verification and proof-of-concept of AVCR software, safety-state logic, model interfaces, synthetic percept reconstruction, evidence integrity, and sponsor-adaptor readiness in an isolated benchtop environment.

3.2 Explicit exclusions

- No implant, electrode, lead, body-contact part, clinical controller, or patient-connected accessory.
- No current source, voltage stimulator, charge delivery, waveform generator, DAC/PWM stimulation channel, or exposure claim.
- No autonomous treatment, diagnostic decision, clinical calibration, or participant-specific inference.
- No representation that synthetic, retrospective, or LED-panel results establish safety or effectiveness.
- No use on hospital networks, production credentials, sponsor keys, or parent-device interfaces without written authority.
- No upgrade to MQ3/MQ4 and no release for clinical use.

Competitive position: AVCR is not another image encoder

It is an auditable control layer that sits between perception models and future implant-grade interfaces.

Alternative	Typical focus	AVCR differentiation
Pixel/scene encoders	Convert camera scene to stimulation map	Adds causal history, geometry, uncertainty and abstention gates
Implant hardware platforms	Electrodes, stimulator, surgical platform	Complements hardware as a safety-certified control and evidence layer
Generic AI models	Predict percepts or optimize parameters	Locks intervention support, provenance, replay, decision-regret and fail-closed logic
Trial software / EDC	Data capture and compliance	Generates linked HIL/model evidence before clinical use

Positioning for Hub71: regulated MedTech enablement infrastructure, not premature human deployment.

Why Hub71 and Abu Dhabi

Hub71+ Life Sciences is a direct fit because AVCR needs policy, capital, research, hospitals and regulators in one ecosystem.

12-MONTH ABU DHABI PLAN

- Create AVCR Abu Dhabi operating unit inside the Hub71 ecosystem.
- Relocate a founder or authorized founding executive long-term and hire a local technical / clinical operations lead.
- Engage Hub71+ Life Sciences partners for non-human HIL, regulatory pathway review and clinical-feasibility design.
- Pursue non-clinical collaboration with UAE health innovation stakeholders; no recruitment or stimulation without approvals.

Hub71 partner fit

- Department of Health - regulatory pathway and healthcare ecosystem
- Emirates Drug Establishment - evidence expectations and approvals dialogue
- Cleveland Clinic Abu Dhabi and clinical partners - needs assessment / future workflow
- Global Ventures / Nuwa / Globinvest - funding path

Sources: Hub71+ Life Sciences official pages and Hub71/Abu Dhabi announcements.

Milestones funded by Hub71

Tightly scoped milestones that fit a 12-month programme and produce de-risking evidence.

Milestone	Time	Evidence output
M1: Abu Dhabi setup	0-60 days	Entity/operating plan, founder relocation plan, partner mapping
M2: P0-B evidence lock	0-90 days	Build certificate, E-stop/watchdog/timing package, independent witness file
M3: P1 HIL design	3-6 months	Sponsor-neutral interface emulator, verification plan, cybersecurity scope
M4: Clinical feasibility	6-9 months	Needs assessment, clinical workflow, future protocol concept
M5: Funding/regulatory bridge	9-12 months	FDA Pre-Sub package draft, Blueprint/NSF/Qatar follow-on deck

Success definition: clinical-readiness evidence and partner traction, not human stimulation.

Funding status and Hub71 ask

Anahita has raised USD \$1.5M to date; Hub71 is the fast bridge to P1/HIL, Abu Dhabi operations and a larger Seed/IDE-enabling round.

AED 500k

Hub71 requested package: AED 250k cash + AED 250k incentives

\$1.5M

funds raised to date; current Hub71 ask is an ecosystem and non-clinical validation bridge

\$3-5M

follow-on Seed / Qatar / NIH / strategic round after milestones

USE OF HUB71 SUPPORT

- Abu Dhabi market-entry and operations
- P0-B evidence lock and independent verification
- P1/HIL technical plan and partner-readiness
- Clinical-feasibility and regulatory evidence pathway

Founder and team plan

The scientific founder has the core invention; Hub71 adds the operating ecosystem needed for translation.

Esmaeil Farshi

Founder / inventor | Anahita

- Author of the AVCR v20 JNE-targeted manuscript and controlled translation packages.
- Lead inventor of P0-B safe bench prototype and evidence-driven AVCR architecture.
- Anahita will relocate at least one founder or authorized founding executive long-term to Abu Dhabi if selected, subject to program, visa, legal and regulatory requirements.

Hiring / advisor plan

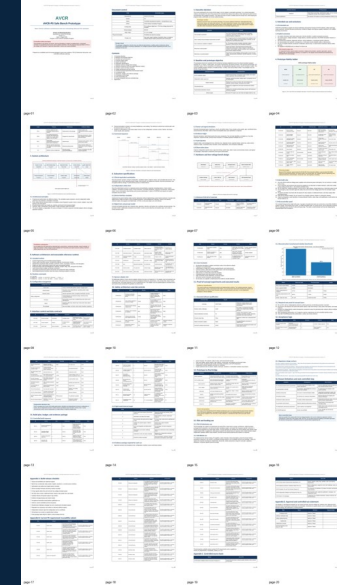
- Abu Dhabi-based clinical/research champion
- Regulatory + quality lead for device software and HIL evidence
- Founding technical operator for P1/HIL and data room
- Strategic clinical and device-platform advisors after LOIs

Near-term execution depends on completing these appointments; this is exactly why Hub71 is strategically valuable.

AVCR is ready for Hub71+ Life Sciences because it is a deep-tech MedTech project at the right pre-clinical inflection point.

What Hub71 makes possible

- Abu Dhabi operating base
- Clinical and regulatory partner access
- Independent HIL evidence
- Bridge to Seed, Qatar, NIH and strategic device partners



Request

Accept AVCR into Hub71+ Life Sciences Cohort 20 and support the first non-clinical Abu Dhabi HIL and clinical-readiness program for decision-certified cortical visual prosthesis control.

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