PERP BRAIN FOR SMOOTH BRAINS · SHADOW MODE · OBSERVE-ONLY

EVERY SIGNAL GETS A SECOND OPINION AND A RECEIPT.

Smooth Brains is GVNR's internal trading system and Perp Brain's first internal client. Smooth Brains trades on Hyperliquid mainnet. Since 10 Nov 2026 Perp Brain has run alongside it in shadow mode on the public SDK: each signal is simulated, checked against limits and stored with a receipt. It is observe-only, so it never blocks, changes or places a trade. The move to verified receipts is under way.

STATUS	SDK	MODE	FEES
Live since 10 Nov 2026	Public SDK; verified receipts under way	Shadow, observe-only	Never charged

HOW THE LOOP WORKS

01 SIGNAL
Smooth Brains produces a trade idea.

02 SIMULATE
Perp Brain prices fees, slippage and funding for that size.

03 GUARD
Limits are checked. Refusals are logged, never enforced.

04 RECEIPT
The result is sealed in a hash-bound receipt.

05 VERIFY
Receipts get rerun once the verified upgrade lands.

06 MEASURE
A weekly metrics file sums it all up.

FINDINGS ---------- BECOME PERP BRAIN FIXES

5
SDK ISSUES FOUND AND FIXED

The loop is already paying off. Running real signals through the public SDK in shadow mode surfaced five issues that a demo would have missed. All five were fixed and shipped to every user in versions 0.1.1 and 0.1.2.

Results so far: first receipts appear when the first signal fires. Until then, the case study shows no numbers rather than made-up ones.

WHY RUN IT THIS WAY

A toolkit for trading agents should be tested by a trading agent. Smooth Brains gives Perp Brain a demanding, real user from day one, and Perp Brain gives Smooth Brains a second opinion on every signal and a record it can prove. Both get better each week.

WHAT HAPPENS EACH WEEK

ALL WEEK
SIGNALS RUN
Each signal is simulated, guard-checked and receipted, observe-only.

FRIDAY
METRICS FILE
Smooth Brains writes the week's numbers to one file.

REVIEW
READ THE GAPS
Refusals and slippage gaps point to what needs work, on either side.

SHIP
FIX AND PUBLISH
Fixes ship in the next SDK release and the case study updates.

WHAT EACH SIDE GETS

SMOOTH BRAINS

BETTER DECISIONS, ON THE RECORD

01 **The full cost first**
Fees, slippage and funding for each signal before it acts.

02 **Limits, tested quietly**
Every refusal is logged with its reason, so limits can be tuned on evidence.

03 **Honest estimates**
Simulated slippage will be compared with real fills once fills are linked to receipts.

04 **A provable history**
A trail of receipts anyone can rerun.

PERP BRAIN

A REAL USER, EVERY WEEK

01 **Real-world testing**
Live signals test the SDK harder than any demo.

02 **Fixes that ship to everyone**
Five issues found and fixed in 0.1.1 and 0.1.2 so far.

03 **A case study built on data**
Published only from the weekly metrics file.

04 **Proof for other builders**
A working example of the full read, simulate, guard, receipt and verify loop.

THE WEEKLY METRICS FILE

Every week Smooth Brains writes one metrics file. The public case study at perpbrain.com/case-studies/smooth-brains is built from those files and nothing else. A figure stays blank until there is real data behind it.

METRIC	WHAT IT TELLS US
Simulations	How many signals were run through Perp Brain that week
Verified receipts	How many receipts were rerun and matched
Guard refusals	How often limits said no, and why
Sim vs actual slippage	How close the simulated cost was to the real one (needs fill linking, in progress)
Fee drag	How much fees took out, so they can be planned for

HOUSE RULES

01

SAME SDK AS EVERYONE

Smooth Brains installs the public packages. Nothing is special-cased.

02

STRATEGY STAYS PRIVATE

We publish metrics and fixes. How Smooth Brains trades stays inside Smooth Brains.

03

REAL NUMBERS ONLY

Simulated figures are labelled as such, and nothing is shown before it exists.

Perp Brain is a GVNR product, owned by GVNR DAO LLC, a Marshall Islands DAO LLC. Perp Brain is developer tooling, and simulated results are not a forecast; trading perps can lose money, so please read the risk disclosure (perpbrain.com/legal/risk-disclosure).