

M C P S E R V E R

N O C O D E

C L O U D H O S T E D

Butter Trick Mechanics is a physics engine.

Calculate the exact mechanics needed for perfect board presses.

Butter Trick Mechanics uses physics-based calculations to model snowboarding maneuvers. It determines how much board flexion you need and where to shift your weight to maintain stability during presses and rotations. Connect it to your AI client to run mechanical simulations for specific rider weights and board flex ratings.

snowboarding

physics

butter-tricks

mechanics

sports-science



The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest
managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.

— Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT`https://edge.vinkius.com/{token}/mcp`

Claude



Cursor



VS Code



Windsurf



Grok



Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1)
Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

Get started at cloud.vinkius.com — connect your AI agent in under 60 seconds.

Butter Trick Mechanics MCP

4 tools available

Cloud-hosted on Vinkius

If you are trying to nail a specific press or rotation, guessing your body position is a recipe for a wipeout. This MCP treats snowboarding maneuvers as a physics problem. It calculates the specific mechanical requirements for board flexion and rider balance based on your weight and equipment specs. You can use it to figure out exactly how much you need to shift your weight to initiate a press or where to stand on the board to stay stable during a rotation. Instead of trial and error on the snow, you get hard numbers on displacement, stability ratings, and success probabilities. It's a technical way to approach trick progression by looking at the actual physics of the board and the rider.

Core Capabilities

01 — Weight Shift Calculation

Your agent calculates the exact centimeters of movement needed to initiate a press.

03 — Feasibility Modeling

Your client predicts the success probability of a maneuver based on rider weight and board flex.

05 — Press Depth Estimation

The engine determines how much the board will actually bend under your weight.

02 — Stability Mapping

The AI finds the longitudinal position that keeps you from washing out during a trick.

04 — Stance Analysis

The tool evaluates how your feet placement affects the difficulty of the trick.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/butter-trick-mechanics — connect your AI agent in three steps.

- 01 Connect the MCP to Claude, Cursor, or Windsurf via Vinkius.
- 02 Provide your weight, board flex, and the trick you want to perform.
- 03 Your AI client uses the physics tools to run the calculations.
- 04 Get specific data on weight shifts, balance points, or success probabilities.

You connect the MCP to your AI client and start asking technical questions about snowboarding physics.

Built For

This is for people who want to apply sports science to their snowboarding progression.

Snowboarders

Use it to plan tricks and understand how their weight affects board flex.

Coaches

Hand off rider data to the AI to get technical feedback on trick feasibility.

Equipment Designers

Use the physics engine to model how different flex ratings respond to rider weight.

What Changes When You Connect

- 01

Replaces guesswork with specific centimeter and stability measurements.
- 02

Models the interaction between rider weight and board flex.
- 03

Provides a mathematical success probability for planned maneuvers.

Real-World Applications

Trick Planning

Calculate the weight shift needed for a specific press before you hit the snow.

Stability Optimization

Find the exact balance point to stay stable during high-rotation maneuvers.

Equipment Matching

See how a stiffer or softer board changes the physics of your favorite tricks.

Progression Tracking

Compare the difficulty scores of different tricks to plan your training.

4 Tools Available

#	TOOL	DESCRIPTION
01	analyze_stance_impact	This tool evaluates how your specific stance configuration changes the difficulty of a butter trick.
02	calculate_press_physics	Use this to find the exact physical displacement needed to start and hold a board press.
03	find_balance_position	This tool identifies the best longitudinal spot on the board to keep you stable during a trick.
04	predict_trick_outcome	This tool provides a mechanical feasibility assessment for any maneuver you plan to attempt.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U How much weight shift do I need for a 75kg rider on a board with 5 flex for a 2 second press?



The required weight shift is 12.5 cm and the expected press depth is 4.2 cm.

U Where should a 60kg rider stand for a 180-degree rotation on a flex 3 board?



The optimal balance point is 15.0 cm from the center of the board with a stability rating of 0.85.

U Will a 80kg rider succeed at a high-rotation trick on a stiff board?



The predicted difficulty score is 7.5 and the success probability is 0.62.

Frequently Asked Questions

01 What kind of data does this MCP use?

It uses rider weight, board flex ratings, and specific trick parameters to run physics calculations.

02 Can I use this with Claude?

Yes, you can connect this MCP to any compatible client like Claude, Cursor, or Windsurf.

03 Does it work for any snowboarder?

The physics engine works for any rider weight and any board flex rating provided in the prompt.

04 How accurate are the trick predictions?

The tool provides a predicted difficulty score and a success probability based on mechanical feasibility.

05 Do I need to install anything on my computer?

No, Vinkius hosts the MCP, so you just connect your client and it is ready to use.

Go Live in 60 Seconds

Get your connection token from cloud.vinkius.com, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

`https://edge.vinkius.com/[TOKEN]/mcp`

CLIENT	WHERE TO CONFIGURE
 Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
 Cursor	Settings → Features → MCP Servers → "+" Add New MCP Server" → Type: SSE → Paste endpoint
 VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add <code>"butter-trick-mechanics": { "url": "..." }</code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → Add endpoint URL
 ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
 Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

-  Ask ChatGPT 
-  Ask Claude 
-  Ask Perplexity 
-  Ask Gemini 
-  Ask Grok 

READY TO CONNECT

Butter Trick Mechanics is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and
start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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DOCUMENT INFORMATION

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Server ID	01a0a260-579c-70d5-a3b3-fb1772141e6c
Platform	Vinkius Cloud for AI Agents
Endpoint	https://edge.vinkius.com/{token}/mcp

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