

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

Binding Stance Optimizer for Snowboarders

Get a custom board setup based on your body.

Binding Stance Optimizer uses biomechanical data to calculate your ideal snowboard configuration. Instead of guessing your stance, you provide your height, leg length, and riding style to get specific numbers for binding width, angles, and setback. It helps you find the sweet spot between carving stability and park maneuverability.

A+ Quality Score 100/100

snowboard

stance

biomechanics

equipment

optimization



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.

Binding Stance Optimizer MCP

4 tools available

Cloud-hosted on Vinkius

Stop guessing your stance width or playing with angles that don't suit your body. This MCP uses biomechanical math to translate your physical proportions into a precise snowboard setup. You provide your height, leg length, flexibility, and how you ride, and your AI client calculates the exact placement for your bindings.

If you want to prioritize carving, the tool suggests angles for maximum edge hold. If you prefer hitting rails in the park, it shifts the focus to maneuverability. You can also run stability checks to see how a specific setup will feel relative to your center of mass before you ever bolt your bindings down. It even defines your physical limits so you don't set a stance that's impossible to ride safely. It's about moving away from generic setups and toward a board that actually works with your anatomy.

Core Capabilities

01 — Stance Calculation

Your agent uses your height and leg length to find your ideal binding width and setback.

02 — Stability Testing

Your AI client checks how a specific stance will feel relative to your center of mass.

03 — Angle Tuning

Your agent suggests specific angles to favor either carving or park riding.

04 — Safety Boundary Checks

Your agent calculates the maximum and minimum stance limits for your body type.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/binding-stance-optimizer — connect your AI agent in three steps.

- 01 Connect the MCP to your AI client through Vinkius.
- 02 Provide your physical metrics like height and leg length to your agent.
- 03 Specify your riding style or specific performance goals.
- 04 Receive precise width, angle, and setback recommendations.

Connecting to this MCP allows your AI client to act as a biomechanical consultant.

Built For

This MCP is built for anyone looking to optimize their snowboard performance through biomechanics.

Snowboarders

Riders who want to move away from factory settings to a custom setup.

Gear Technicians

Pros who use precise data to help customers set up their equipment.

Equipment Designers

Users looking to understand how rider anatomy dictates stance requirements.

What Changes When You Connect

- 01 Removes guesswork from binding placement.
- 02 Matches board setup to your specific center of mass.
- 03 Provides mathematical limits for safe riding.
- 04 Allows for goal-based angle adjustments.

Real-World Applications

Park Setup

Get angles and setback values that favor maneuverability for jibbing and jumps.

Carving Optimization

Find the specific angles needed for maximum edge hold and stability.

New Board Setup

Determine your ideal stance before you mount your bindings on a new deck.

Safety Verification

Check if a wide stance or deep setback is physically safe for your proportions.

Patterns to Avoid

Relying on factory settings

❌ AVOID

You mount your bindings exactly where the manufacturer put the inserts without checking your own leg length or center of mass.

✓ INSTEAD

Use ``get_recommended_stance`` to find a setup that actually matches your specific anatomy instead of using generic factory defaults.

Ignoring physical safety limits

❗ AVOID

You try to set an extremely wide stance or a massive setback because you think it will help you carve better.

✓ INSTEAD

Run ``get_stance_range_limits`` first to identify the safe width and setback ranges for your specific body type.

Guessing stability for new setups

❗ AVOID

You bolt down a new setup based on a hunch and hope it doesn't feel twitchy at high speeds.

✓ INSTEAD

Use ``get_stability_analysis`` to evaluate how a specific configuration will perform relative to your center of mass before you ride.

The Right Fit

Connect this MCP if you want to move away from generic snowboard setups toward a custom, biomechanically optimized stance. Do not use this if you prefer sticking to standard factory settings or don't care about how your anatomy affects board control. The decision comes down to whether you want your gear to work with your body or against it.

Binding Stance Optimizer: 4 Precision Biomechanical Tools

These tools translate your physical proportions into exact snowboard setup data. You can calculate ideal placement, test stability, or find your safe riding limits.

#	TOOL	DESCRIPTION
01	get_angle_optimization	Suggests binding angles for specific riding goals. You can choose to optimize for carving or for maneuverability.
02	get_recommended_stance	Calculates your primary binding placement including width, angles, and setback. It uses your physical metrics and riding style to generate these numbers.
03	get_stability_analysis	Tests a specific stance configuration. It evaluates how a user-defined setup will perform based on your specific anatomy and center of mass.
04	get_stance_range_limits	Sets the physical boundaries for your setup. It identifies the safe width and setback ranges for your specific body type.

See It in Action

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

U What is my recommended stance if I am 180cm tall, have 85cm legs, ride in the park, and have high flexibility?



Your recommended stance width is 40cm, with toe angles of 15° and heel angles of -8°, and a setback of 2cm.

U I am 175cm tall with 80cm legs. What are my safe stance width limits?



Your safe stance width range is between 38cm and 46cm, with a maximum setback of 4.5cm.

U How will a 45cm width and 5cm setback affect my stability?



A 45cm width with a 5cm setback provides high balance and stable edge control for your proportions.

Frequently Asked Questions

01 How does this MCP determine my stance?

It uses biomechanical calculations based on your height, leg length, flexibility, and riding style.

02 Can I optimize for carving specifically?

Yes, the angle optimization tool allows you to choose between carving and maneuverability.

03 Will this tell me if my stance is too wide?

Yes, the tool provides safe physical boundaries for your stance width and setback.

04 What clients can I use this with?

You can use this with any MCP-compatible client like Claude, Cursor, Windsurf, or VS Code.

05 Does it account for my riding style?

Yes, your riding style is a key input used to calculate your recommended stance.

06 How does the tool account for different riding styles?

The engine adjusts recommendations based on whether you select 'park' for agility or 'freeride' for stability and carving efficiency.

07 Can I test a specific stance width before setting it up?

Yes, you can use `get\_stability\_analysis` to evaluate how a specific width and setback will affect your balance and edge control.

08 What physical metrics are required for a recommendation?

To get a full recommendation, you need to provide your total height, leg length, riding style, and flexibility level.

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>"binding-stance-optimizer": { "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

Binding Stance Optimizer 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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Platform	Vinkius Cloud for AI Agents
Endpoint	<code>https://edge.vinkius.com/{token}/mcp</code>

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