

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

Heart Rate Variability Analyzer MCP

Turn raw biometric data into actionable training readiness insights.

Heart Rate Variability Analyzer MCP connects your AI client to physiological data. It lets your agent interpret RMSSD, SDNN, and RHR to determine if you are recovered, how much training load you can handle, and whether your physiological state is trending up or down.

A+ Quality Score 100/100

hrv

recovery

fitness

health

biometrics



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.

Heart Rate Variability Analyzer MCP

4 tools available

Cloud-hosted on Vinkius

You can stop manually calculating biometric trends and let your AI client do the heavy lifting. This MCP gives your agent direct access to Heart Rate Variability (HRV) metrics, turning raw physiological signals into clear recovery and readiness assessments. Instead of staring at spreadsheets of RR intervals, you can ask your agent to process raw data or check your current status instantly. It handles the math for RMSSD and SDNN, so your agent can tell you exactly how much training load you can safely absorb today. Whether you are tracking long-term physiological shifts or just checking if you're ready for a heavy lifting session, this MCP provides the data your agent needs to give you real answers.

Core Capabilities

01 — Raw Data Processing

Your agent uses this to turn raw RR intervals into RMSSD and SDNN metrics.

02 — Recovery Assessment

Your agent checks this to see if your body has recovered from previous stress.

03 — Readiness Calculation

Your agent uses this to determine how much training load you can take on.

04 — Trend Identification

Your agent monitors this to see if your physiological state is improving or declining.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/heart-rate-variability-analyzer — connect your AI agent in three steps.

- 01 Connect your AI client to the Vinkius-hosted MCP.
- 02 Provide raw RR intervals or existing HRV metrics to your agent.
- 03 The agent uses the MCP tools to process data or check status.
- 04 Your agent delivers a specific readiness score or trend analysis.

You connect the MCP to your AI client and start feeding it biometric data.

Built For

This MCP is built for people who want to use AI to manage their physical performance and recovery.

Athletes

They hand off raw biometric data to their agent to decide daily training intensity.

Fitness Coaches

They use the agent to monitor their clients' recovery trends and training readiness.

Biohackers

They use the agent to track long-term physiological shifts and health trends.

What Changes When You Connect

- 01 Converts raw RR intervals into usable RMSSD and SDNN metrics automatically.
- 02 Provides a clear training readiness score based on physiological data.

-
- 03** Identifies whether your physiological state is improving or declining.
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- 04** Determines current recovery status to prevent overtraining.
-

Real-World Applications

Daily Training Adjustments

Your agent checks your recovery status to suggest if you should train hard or rest.

Data Conversion

Your agent takes a list of raw RR intervals and turns them into standard HRV metrics.

Fatigue Monitoring

Your agent identifies declining physiological trends to warn you about accumulating fatigue.

Load Management

Your agent calculates how much training load you can safely absorb based on your current state.

4 Tools Available

#	TOOL	DESCRIPTION
01	analyze_hrv_trend	This tool tracks your physiological direction over time. It tells your agent if your health state is improving or declining.
02	get_recovery_status	This tool determines your current physiological recovery state. Your agent uses it to see if you are ready for activity.
03	get_training_readiness	This tool calculates your safe training capacity. It tells your agent how much physical load you can handle right now.
04	process_raw_intervals	This tool converts raw RR interval data into standard metrics. It produces the RMSSD and SDNN values your agent needs for analysis.

See It in Action

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

U My RMSSD is 50ms, my RHR is 60 bpm, I am 30 years old, and my baseline RMSSD is 55ms. I took this measurement in the morning. What is my recovery status?



Your current status is Recovered with a readiness score of 75. You should proceed with moderate intensity training.

U Calculate HRV metrics from these RR intervals: [800, 810, 790, 820, 805, 795, 815, 800, 810, 790]



The processed metrics are RMSSD: 12.5ms and SDNN: 10.2ms from 10 samples.

U My recent RMSSD values are [45, 42, 40] and my baseline is 50. My recent RHR values are [60, 62, 65] and my baseline is 60. What is my trend?



Your physiological state is Declining with a Strong trend, suggesting accumulating fatigue.

Frequently Asked Questions

01 What metrics does this MCP calculate?

The MCP processes raw RR intervals to produce RMSSD and SDNN metrics.

02 How can I use this with my AI client?

You connect your AI client to Vinkius, which hosts the MCP, and your agent can then call the tools directly.

03 Can this MCP help prevent overtraining?

Yes, by using the training readiness and recovery status tools, your agent can identify when you are overstressed.

04 What is the purpose of the trend analysis tool?

The trend analysis tool identifies if your physiological state is improving or declining over time.

05 Does this require manual data entry?

No, you can provide raw RR interval data which the MCP then processes into usable metrics for your agent.

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>"heart-rate-variability-analyzer": { "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

Heart Rate Variability Analyzer 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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