Activation-match: Transforming identity authentication and resource access with multi-modal biometric methods

Problem

At Retica, we're addressing a critical cybersecurity and human experience challenge: **digital exhaust**. Our goal is to eliminate passwords and other flawed access methods by introducing a frictionless, secure alternative. At the core of our solution is the **activation-match algorithm**, designed to be broadly applicable across sectors.

Our vision is simple: **maximum security and minimal user effort** are not mutually exclusive. By combining independent, simultaneous biometric methods, we deliver mathematically superior security while enhancing the user experience. This **security-maximizing, trust-minimizing framework** applies to both digital and physical environments where identity and access matter.

Solution: Activation-match

Activation-match method is a next-generation algorithm that uses multi-modal biometrics to revolutionize identity authentication and public and private resource access and control. This method is built on combinations of independent, simultaneous biometric methods, using local and cloud-based data processing, to deliver robust, user-friendly security. Activation-match deploys an "activator" metric along with "matching" biometric methods to ensure processes like payments and other transactions are intentional. Doing so provides humans with more control over their decision-making and reduces digital clutter and noise. It also allows us to collectively invest our time and energy in more important matters concerning our future.

By maximizing biometric methods with minimal user experience impact, we're able to build a system that has breadth and leverages the unique granularities of human features, all while preserving privacy and minimizing trust dependencies.

Features

- **Combinations of independent, simultaneous biometric methods** that deliver unmatched security that drive enhanced human experience.
- **Data fragmentation and distribution** across locally and cloud stores, with shared features-based cloud, communicating information with PII off the cloud.

- **Sector-agnostic adaptability:** Scales across industries – from physical access control to digital verification to payment authorization.

Applications

Activation-match is designed to replace outdated authentication methods like passwords, PINs, and physical keys. Its versatility enables a wide range of real-world applications:

- **Payments and transactions:** Authorize card-based and account-based payments securely (online or in-person). Paired with platforms like Amazon One, it enables seamless, biometric-first checkout experiences.
- **Travel and hospitality:** Replace hotel room keys and streamline booking and check-in processes with biometric access.
- **Urban mobility:** Enable secure, frictionless access to public resources like public transit systems (e.g., Subway system) and Citi Bikes. No turnstiles, ease-of-activation, and no bottlenecks.
- **Events and ticketing:** Simplify entry and reduce bottlenecks. Eliminate fraud in concerts, sports, and other large-scale events.
- **Secure facilities and assets:** Enhance or replace current standards for military and high-security installations and other government, corporate, and university facilities. Weapon and asset security and efficient inventory management.
- **Digital identity:** Power social media verification, dating app safety, and document-free identity checks.
- **Deliveries and access:** Improve residential and corporate delivery workflows with biometric-based access. Secure supply chain points of failure.
- **Creative attribution:** Transform software development and content creation with biometric credit, authorship verification, and proof of work. Secure NFTs.

In essence, activation-match enables a **human-centric, digitally clean world** where identity is secure, seamless, and always with you.

Advantages over existing solutions

- **Superior security**: Requires spoofing multiple unrelated biometric traits simultaneously.
- **Password elimination**: Removes phishing risks and user frustration.

- **User-centric design**: Uses the uniqueness of the individual as the credential, creating richer, more accurate biometric profiles and more seamless human experiences.

Conclusion

Activation-match offers a seamless, secure, and user-centric solution for identity authentication and resource access. By combining multi-modal biometrics with a decentralized data architecture, we deliver a solution that's not only more secure but also more human. Let's build a future where identity is effortless, private, and always protected. Let's build it together.