



Fairness by Design: Our Commitment to Ethical AI in Biometrics

Vincent Bouatou, CTO at IPS, discusses the importance of fairness in AI and Biometrics

JUSTICE & PUBLIC SAFETY TRAVEL IDENTITY – NORTH AMERICA

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At IDEMIA Public Security, fairness in AI is not an aspiration but a responsibility. In this article, Vincent Bouatou, Chief Technology Officer, shares how our 35+ years of biometric expertise ensure algorithms that are unbiased, accurate, and trusted worldwide—supporting ethical artificial intelligence for public security and identity systems.

Fairness in AI: A responsibility, not an aspiration

At IDEMIA Public Security, we do not see **fairness in artificial intelligence (AI)** as a future goal—we see it as a present responsibility. As CTO, I have witnessed firsthand the critical role that **ethical, unbiased technology** plays in building trust with our partners, institutions, and the people they serve.

As **AI** becomes increasingly **embedded** in **public security** and **identity systems**, one principle stands out as essential: **fairness**. We believe AI should work equally well for everyone, regardless of demographic background. **Fairness in AI** means ensuring any biases stemming from the algorithm development process do not carry over into real-world decision making.

Building inclusive algorithms for all populations

We have spent more than **35 years** developing biometric systems that are now used **all over the world**. From the outset, we knew **diversity** would be central to our work—diversity in **age, gender, ethnicity**, and even in **lifestyle** and **working conditions**. For example, **fingerprints** from manual laborers may exhibit more wear, tear, or scarring than those of office workers. These differences are not just theoretical—they affect the quality of **biometric data** and the performance of AI systems. That is why we have always gone the extra mile to make sure our **algorithms** are **fair for everyone**.

Research and Development: Eliminating bias at every step

This commitment is particularly evident in our **facial recognition technology**. We aim to ensure the probability of an error is not higher for any demographic group. Because our solutions are deployed globally, our algorithms must perform **accurately** and **consistently** across populations.

We have invested heavily in **R&D** to eliminate bias at every stage of development. **Fairness** and **accuracy** are two sides of the same coin—one cannot exist without the other. This principle has guided our teams for decades, shaping the way we design, test, and benchmark our systems.

In 2020, our efforts received meaningful recognition. The **National Institute of Standards and Technology (NIST)**, which **benchmarks biometric algorithms worldwide**, announced it would begin measuring **fairness** as part of its evaluations. For us, this was a pivotal moment. It confirmed we were already ahead of the curve—well prepared for the industry's growing focus on **ethical AI**.

Trusted technology for a responsible future

Today, we are proud to be **one of the only biometric providers** whose algorithms are **as fair as they are efficient**. This dual achievement defines our leadership in the sector. And it is not just about **performance**; it is about **trust**. Our customers, partners, and end users know they can rely on us to deliver **technology that is both powerful and principled**.

This same trust will be increasingly important as regulations like the **EU's AI Act** come into effect. Among other requirements, the Act calls for **strict mitigation of bias in high-risk AI systems**. Thanks to our longstanding approach, we are already **compliant** with many of these stipulations.

Fairness is not an add-on for us—it is built into everything we do. And as the world moves toward **more responsible AI**, we will continue to lead by example.