

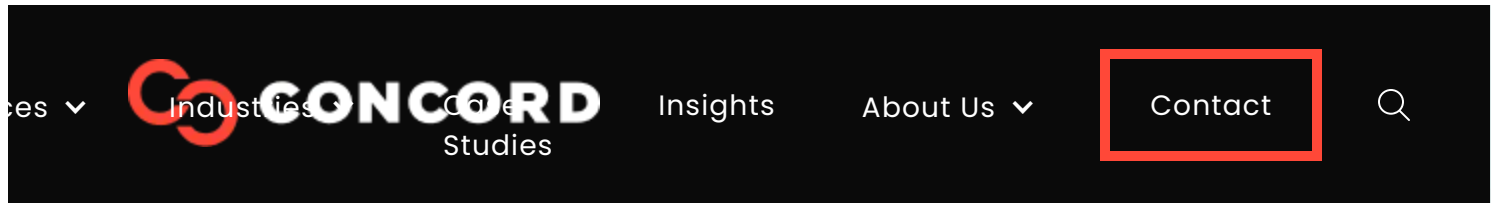


ARTIFICIAL INTELLIGENCE

Bias by Design: Why AI Personalization Often Excludes People with Disabilities —And How Retailers Can Fix It

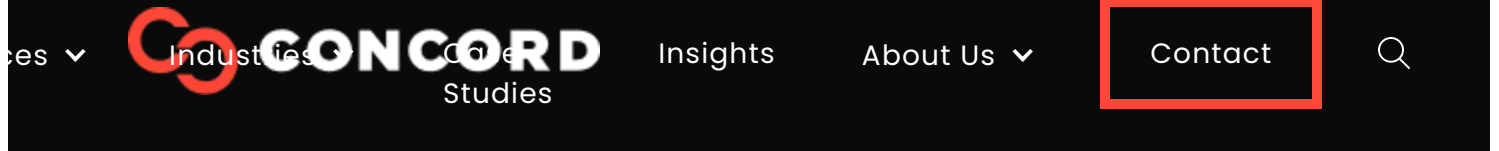
By Brandi Thompson





**AI is helping
retailers
deliver
more
tailored
shopping
experiences**





**design, it
can
unintentionally
exclude
people with
disabilities
by hiding
critical
accessibility
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This post
explores
how bias
enters
personalization
systems
and what
retailers
can do to
create more**



experiences for all customers.

AI-driven personalization has revolutionized the online shopping experience, helping retailers tailor content, product recommendations, and content to individual customers. But as powerful as AI is, it's not without its flaws—especially when it comes to inclusion.

Without intentional design, AI-powered personalization can exclude people with disabilities by filtering out critical accessibility features or failing to account for diverse user needs. This exclusion doesn't just harm customers; it also





enjoyable, and accessible shopping experiences for everyone.

Below, we'll unpack how biases in AI personalization happen, why accessibility must be part of your personalization strategy, and what retailers can do to build more inclusive and equitable digital experiences.

When AI Gets It Wrong

Bias in AI doesn't appear out of thin air, it's a byproduct of the data used to train algorithms and the decisions made during system design. Even well-meaning teams can introduce bias, especially when accessibility isn't baked into the design from the start. In retail, these



I. Biased Training Data

AI models are only as inclusive as the data they're trained on. If training datasets don't reflect the full diversity of your customer base, including people with disabilities, older adults, or those using assistive technologies, your system may miss the mark. This lack of representation can result in:

- Produce recommendations that ignore accessibility-related products or features
- Interfaces that don't respond well to assistive technology
- Hidden accessibility settings that aren't surfaced in personalized views





shopper using a screen reader, it might conclude that alt text or semantic HTML is unnecessary. This creates a poor, and often unusable, experience for blind or visually impaired customers.

Beyond usability, these oversights can open retailers up to legal and reputational risks. **In 2023, a blind customer, Ali Abdulhadi, sued Walmart, alleging that its website was not accessible and therefore in violations of the Americans with Disabilities Act (ADA).**

While this case wasn't about AI specifically, it demonstrates how digital inaccessibility—regardless of the cause—case have serious consequences.





from data, it can also reflect the assumptions of the people who build it. If developers or data scientists unintentionally deprioritize accessibility features or fail to test for a broad range of user needs, bias becomes baked into the system.

Consider this: If your personalization engine assumes that audio descriptions or closed captions aren't important, visually impaired or hearing-impaired users may never encounter accessible content. The algorithm might deem these features irrelevant simply because they don't appear to drive clicks in the majority population.





user,” a concept that often erases those with different needs and abilities.

3. Personalization That Creates Barriers

In today’s retail environment, personalization filters content based on behavioral data like browsing history, past purchases, or device type. The goal is to show each user only the most relevant content.

But personalization can inadvertently create a “digital divide” by hiding or deprioritizing accessibility features that some users depend on. For example:

- A hearing-impaired shopper who enjoys video tutorials may





assumes their preferences don't include them.

- A neurodivergent customer might benefit from simplified navigation or reduced visual clutter, but if their prior behavior doesn't explicitly signal this, the system might not offer it.
- Alt text, keyboard navigation, and screen-reader compatibility may be filtered out of a personalized experience because the AI deems them irrelevant to the majority.

This can result in entire user groups being excluded from the personalized experience altogether, or worse, facing digital



How Retailers Can Build More Inclusive AI Personalization

Personalization and accessibility are not competing priorities, they're complementary. In fact, the most successful retailers in the years ahead will be those that design AI systems that serve all their customers, not just the statistical majority.

Here are practical steps you can take to make sure your personalization efforts are inclusive:

- Diversify your training data: Include examples from users of different abilities, assistive tech, and access needs. This helps your AI learn





features visible by default: Don't hide key features behind personalization filters. Caption toggles, alt text, and screen reader-compatible layouts should always be accessible.

- Give users control: Let customers set accessibility preference directly in their profile or session settings, and make sure those preference persist across visits and channels.
- Design inclusive algorithms: Train your AI models to recognize and prioritize accessibility needs, even when they aren't the most common user behaviors.





of your
personalization
engine, not just your
general UI. Include
testers with
disabilities to
validate real-world
performance.

- Be transparent: Tell your customers how their data is being used and give them a say in how their experience is shaped.
- Introduce explainability: Personalization can often feel opaque—especially when AI systems hide or prioritize content in ways that affect accessibility. Simple explanations like *“Recommended because you viewed X”* or *“Your accessibility preferences are shaping this view”* can build trust, help



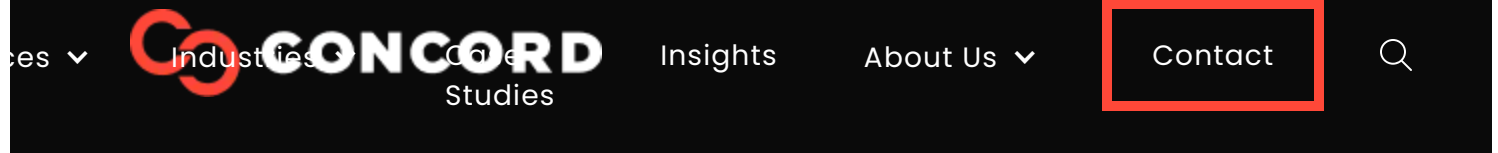


Inclusive Personalization = Better Personalization

AI-driven personalization is only truly effective when it serves everyone. By addressing algorithmic bias, designing for accessibility in mind, and putting inclusion into your strategy from the start, you're not only doing the right thing but building a smarter, more resilient retail experience.

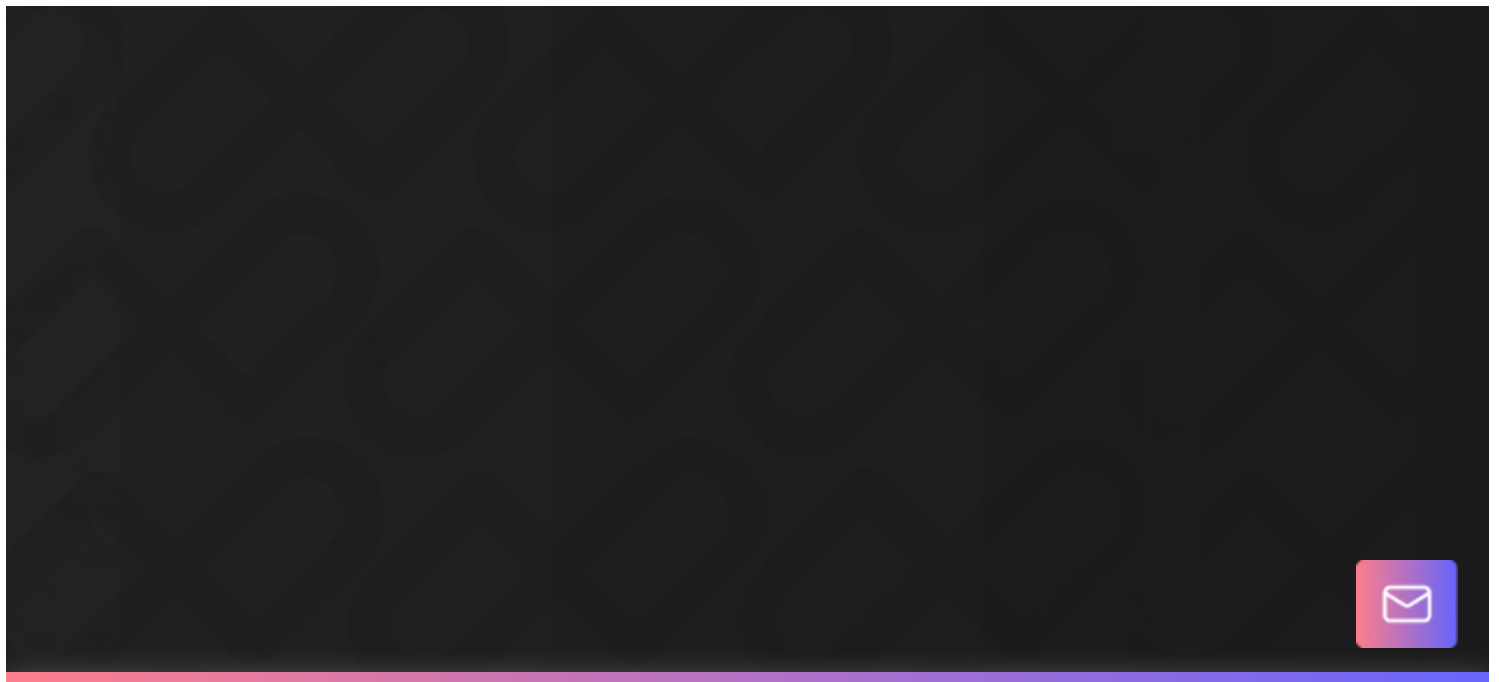
Concord can help you uncover the sources of bias in your data and personalization models, and we offer practical design interventions that enhance customer experience while driving revenue growth and operational efficiency.






powered by ethical data practices and accessibility-first design to make sure your experience works for all customers, including people with disabilities. We also recommend regular audits to promote transparency and continuous improvement.

Reach out to learn how we can help you deliver more inclusive, equitable, and impactful personalization.




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