

Empowering Educators with Innovative AI-Based Assessment Solutions

A Look into Cambium Assessment, Incorporated

Cambium Assessment, Incorporated (CAI) is revolutionizing the field of educational assessment by empowering educators with innovative AI-based solutions. Their use of state-of-the-art artificial intelligence, combined with human scoring, enables efficient and accurate evaluation of student writing. CAI's commitment to responsible AI use and their adherence to key principles in the Blueprint for an AI Bill of Rights, showcasing their impact on the educational landscape.

CAI's mission is to empower educators with the research and data needed to improve student learning. CAI develops world-class, innovative assessment solutions; ensure that all students have equal access and opportunity to demonstrate what they know and can do; and, support better classroom instruction through timely, reliable, and valid assessment information. And deliver more than 100 million tests to nearly a third of the nation's students in 26 states and jurisdictions.

**Empowering Educators,
Elevating Students, Transforming Learning.**



CAI uses state-of-the-art artificial intelligence (AI) to automatically score student writing with our Autoscore engine. CAI deploy their models to work alongside human scoring; unusual or borderline responses are routed to human scorers for verification scoring, and random subsets of responses are routed to human scorers as a quality check. Their approach helps to ensure that all responses receive valid and reliable scores and that scores are returned quickly to educators for use in the classroom.

CAI's AI models are the result of years of research and are grounded in long-standing educational measurement standards that have validity, reliability, and fairness of scores as key foci. These standards include the implementation of policies and procedures to ensure of AI models are developed and used in a responsible manner. Below, we describe how CAI's approach addresses each principle in the Blueprint for an AI Bill of Rights.

- **Safe and Effective Systems.** Automated scoring is a well-established practice in assessment, with accepted standards around its use. CAI adheres to these standards and implements checks throughout the deployment process to ensure that models are verified prior to use and monitored throughout their use. Psychometric reviews of models, technical documentation, and oversight by technical advisory committees occur regularly.
- **Algorithmic Discrimination Protections.** No information on students is used in the modelling process and CAI regularly examines whether the engine performs differently for students in protected classes. When training models, CAI ensures that the training sample represents the student population and the conditions under which students take tests. Additionally, the hand-scores on which the engine is trained are reviewed for accuracy, reliability, and bias.
- **Data Privacy.** Data used to train AI models have been approved for that use by our clients and adhere to federal privacy guidelines around security and privacy. All data, including the AI models themselves, are used solely for the delivery of assessments on behalf of our clients. Additionally, all data used in training are owned by our clients.

- **Notice and Explanation.** CAI provides materials for educators and clients to understand how our models work, how they are combined with human scoring, and what percentage of responses are scored by AI and by human scorers. Methods for combining AI and human scoring are communicated with and approved by our clients. Any system changes are communicated as well.
- **Human Alternatives, Considerations, and Fallback.** Many of our clients offer avenues for educators to request rescoring if they disagree with the score assigned to a student response.

CAI stands as a trailblazer in the realm of educational assessment, driven by a commitment to empowering educators and improving student learning outcomes. Through their innovative AI-based solutions, CAI has harnessed the power of technology to enhance assessment practices, ensuring that all students have equal opportunities to showcase their knowledge and abilities. By adhering to rigorous standards of validity, reliability, fairness, and privacy, CAI has established itself as a trusted partner in the educational community. With their unwavering dedication to responsible AI use and their ongoing pursuit of excellence, CAI continues to shape the future of assessment, providing educators with invaluable tools to support student success in classrooms across the nation.



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¹ See <https://www.apa.org/science/programs/testing/standards> and <https://www.testpublishers.org/assets/Guidelines%20for%20Technology-Based%20Assessment%20v2022.11.08.pdf>