MEDENT's Predictive Decision Support Intervention Risk Management

Overview

MEDENT offers predictive decision support via Suki AI. Suki assists providers in the process of creating clinical notes, including the suggestion of diagnosis codes applicable to the patient encounter.

Risk Analysis

Potential risks of using Suki include data inaccuracies, hallucinations, and automation bias. Suki regularly monitors its products and the fairness and potential bias of its output through numerous measures. Suki ensures fairness by using diverse data, excluding sensitive attributes, and employing a governance committee to ensure there is bias oversight. Suki uses a number of technical and administrative approaches to ensure fairness by using diverse data representation and continuous monitoring to address potential biases.

Risk Mitigation

Potential risks are mitigated by always having a human review and approve the AI-generated output before it pulls into MEDENT. Suki does not approve or finalize any clinical notes; this is always done by the MEDENT user.

Governance

Suki's training data is diverse, covering various medical specialties and user accents, ensuring applicability to a multitude of clinical environments. Suki uses a number of different technical and administrative approaches to identify potential bias in its training data, monitor performance, and mitigate through data augmentation and model retraining. The training and test/evaluation datasets for Suki's Automatic Speech Recognition (ASR) model are sampled from the same collection of ambient datasets, but they are kept in distinct sets. This separation ensures that the evaluation data accurately measures the model's performance on data it has never encountered, providing a reliable benchmark for real-world accuracy. This method is valid because the test data reflects the same

characteristics (e.g., specialties, accents, terminology) as the data the model will encounter in production, offering a realistic performance assessment.

Suki continuously monitors its products and its output validity through a multifaceted strategy. This monitoring involves regular sampling of production data for evaluation, automated regression tests, and manual reviews by in-house clinical experts. Before general release, new models and material updates are first deployed to a select group of trusted testers for real-world testing and feedback. Suki also uses a comprehensive evaluation framework based on the Patient Documentation Quality Instrument (PDQI) to systematically monitor note quality for factors like accuracy, fairness, and hallucination. This continuous loop ensures performance is consistently maintained.

Suki prevents bias and ensures fairness by excluding sensitive data like race from model training and including diverse user accents. Suki also performs continuous monitoring and regular algorithmic audits. A Patient Documentation Quality Instrument (PDQI) framework systematically evaluates note quality, explicitly including a "Fairness" metric. An internal governance committee oversees this process, setting standards and directing mitigation when needed.

Suki continuously refines its products and its output through iterative updates and regular retraining of its AI models to adapt to new clinical guidelines and user feedback. The process involves performance assessments, validation by clinical experts, and testing with trusted users. When risks to validity or fairness are identified through Suki's continuous monitoring, regular audits, user feedback, or other means, Suki takes prompt measures to ensure that corrections are initiated. Internal teams triage the issue and implement mitigation through, among other things, model retraining or system updates. This process is part of a continuous, iterative cycle of evaluation and refinement, ensuring potential issues and risks are addressed as they emerge.