PATHFINDER for Text Classification

TRAINING A TRANSFORMER-BASED CLASSIFIER TO MONITOR CT PE POSITIVITY

A CASE STUDY

Monthly CTPE Positivity Before and After Clinical Decision Support
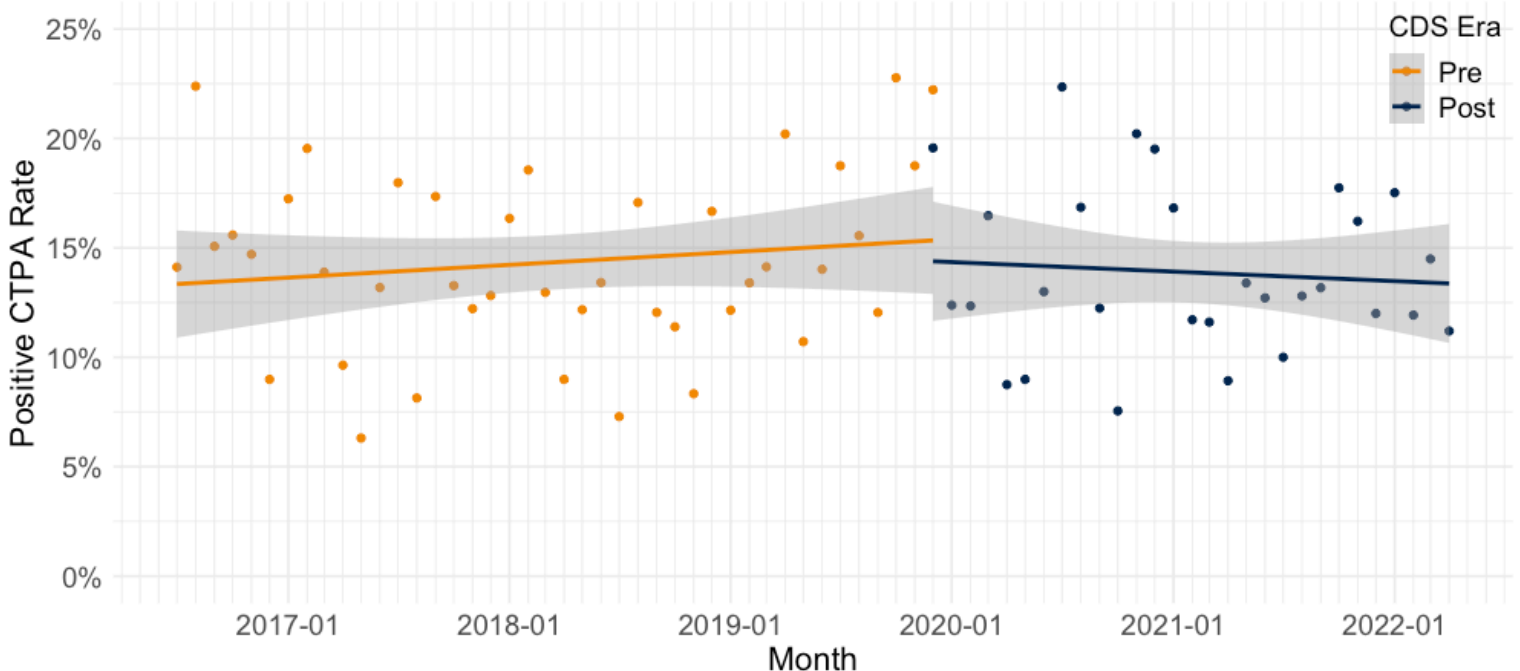
Do More With Text

Text classification can support downstream Quality and Safety Initiatives – monitor diagnostic yield after implementing clinical decision support, pathology reports for nondiagnostic samples, or identify new cancer diagnoses before the patient gets the report. But state-of-the-art classfiers are tricky to develop. With PATHFINDER, any user can design, label, train, and deploy state-of-the-art transformer-based text classifiers, with zero code and without leaving our platform.

Design

PATHFINDER Classifiers can learn multiple independent labels for reports. A CT report classifier might learn `acute` and `chronic` as independent labels for CT PE reports:

For this classifier, PATHFINDER will only consider the **Impression** section of the report, and it will only apply to **CTACHPUEM** exam codes.

Multiple users can be assigned as Authorized Labelers to generate labeled training data:

Classifiers go through specific lifecycle stages:
New – Initial definition
Frozen – Ready for labeling training data
**Training** – Submitted for training
Trained – Performance metrics available
Deployed – Label new reports passing through the PATHFINDER pipeline

Authorized Labelers can manually label thousands of reports efficiently using PATHFINDER's flexible filters:
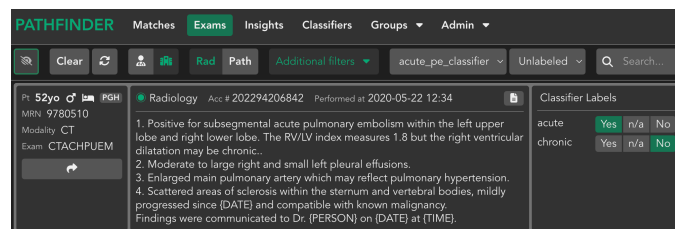
The training data are submitted for training with the press of a button. Once complete, performance metrics are available for review:
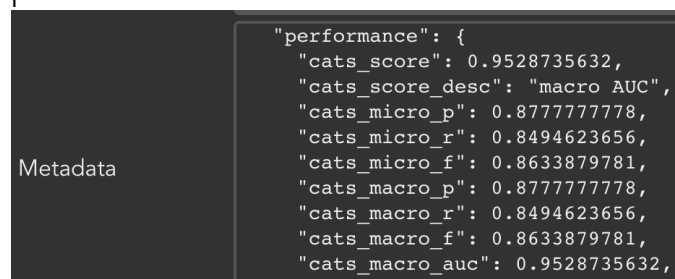
If performance is acceptable, the classifier is deployed with the push of a button. Reports meeting the **Exam Filter Criteria** are labeled in real time as they filter through the pipeline. The labeled exams can be downloaded for further analysis, and the Classifier labels can be used to direct Exams to PATHFINDER Groups for downstream workflows.

Accurate report classification is useful to monitor the impact of Quality interventions like Clinical Decision Support, to monitor procedure reports for complications, pathology reports for new cancer diagnoses or inadequate samples, and countless other uses.