

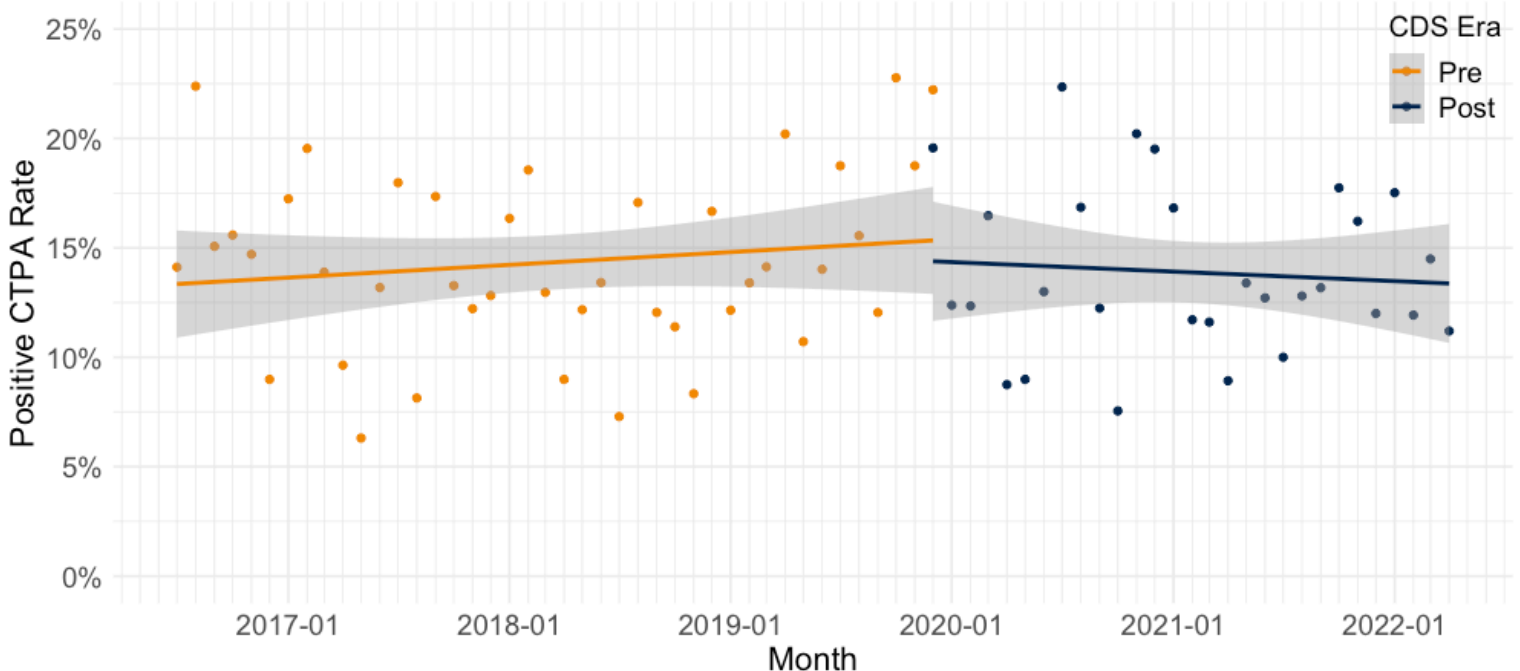


Contact us to learn more  
[info@panorad.io](mailto:info@panorad.io)

# 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 classifiers 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:

The screenshot shows the 'Classifier Parameters' configuration form. It includes fields for Name, Description, Labels, Report sections, and Exam filter criteria. The 'Name' field is 'acute\_pe\_classifier'. The 'Description' is 'Classify CT PE Reports based on the presence of pulmonary embolism (acute vs chronic)'. The 'Labels' field has 'acute' and 'chronic' selected. The 'Report sections' field has 'Impression' selected. The 'Exam filter criteria' field has 'study.short\_desc.eq?('CTACHPUEM')' selected. A 'Save' button is at the bottom.

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:

The screenshot shows the 'Authorized Labelers' and 'Current status' sections of the configuration form. The 'Authorized Labelers' field has 'Admin, Panorad' selected. The 'Current status' field has radio buttons for 'new', 'frozen', 'training', 'trained', and 'deployed', with 'new' selected. A 'Freeze' button is at the bottom.

Classifiers go through specific lifecycle stages:

**New** – Initial definition

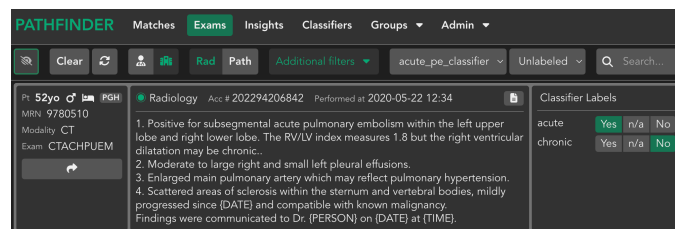
**Frozen** – Ready for labeling training data

**Training** – Submitted for training

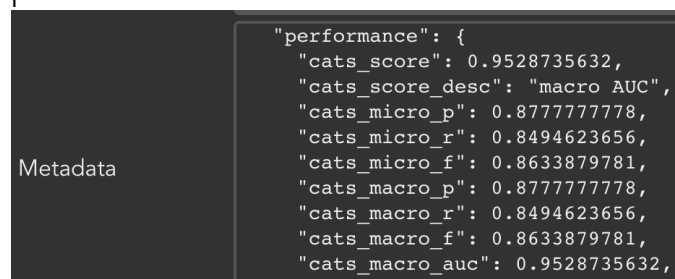
**Trained** – Performance metrics available

**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.