Week 2

AI for Medical Diagnosis

Week 2

Discuss this week's modules here.

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Evaluating models

By the end of this week, you will practice implementing standard evaluation metrics to see how well a model performs in diagnosing diseases.

Learning Objectives

- Calculate true positives, true negatives, false positives, false negatives.
- Calculate sensitivity and specificity
- Calculate Positive Predictive Value (PPV) and Negative Predictive Value (NPV).
- Understand confidence intervals, ROC curve, and F1 score.

Less

Key evaluation metrics

Video: Sensitivity, Specificity, and Evaluation Metrics 2 min — Resume

Video: Accuracy in terms of conditional probability 1 min

Video: Sensitivity, Specificity and Prevalence 4 min

Video: PPV, NPV 2 min

Video: Confusion matrix 2 min

Reading: Calculating PPV in terms of sensitivity, specificity and prevalence 10 min

How does varying the threshold affect evaluation metrics?

Video: ROC curve and Threshold 1 min

Video: Varying the threshold 2 min

Interpreting confidence intervals correctly

Video: Sampling from the Total Population 1 min

Video: Confidence intervals 2 min

Video: 95% Confidence interval 2 min

Quiz week 2

Practice Quiz: Week 2 Quiz: Evaluating machine learning models 9 questions

Programming: Evaluation metrics

Programming Assignment: Evaluation of Diagnostic Models 3h Due Nov 16, 1:59 AM CST