Week 3

AI for Medical Prognosis

Week 3

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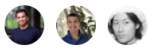
Survival Models and Time



This week, you will work with data where the time that a disease occurs is a variable. Instead of predicting just the 10-year risk of a disease, you will build more flexible models that can predict the 5 year, 7 year, or 10 year risk.

Learning Objectives

- Understand and identify time to event data and censored data.
- Calculate a naive estimate of survival.
- Calculate the Kaplan Meier estimate of survival and compare it to the naive estimate.

Less

Survival estimates

Video: Survival models 39 sec Resume

Video: Survival Function 2 min

Video: Valid survival functions 3 min

Time to event data

Video: Collecting Time Data 1 min

Video: When a stroke is not observed 2 min

Video: Heart Attack Data 2 min

Video: Right censoring 1 min

Estimate survival with censored data

Video: Estimating the survival function 1 min

Video: Died immediately, or never die 3 min

Video: Somewhere in-between 1 min

Lab: Counting patients 1h

Video: Using censored data 1 min

Video: Chain rule of conditional probability 2 min

Video: Deriving Survival 2 min

Video: Calculating Probabilities from the Data 3 min

Video: Comparing Estimates 3 min

Video: Kaplan Meier Estimate 2 min

Lab: Kaplan Meier 1h

Quiz week 3

Practice Quiz: Week 3 Quiz 8 questions

Assessment: Survival Estimates that Varies with Time

Programming Assignment: Survival Estimates that Varies with Time 3h Due Nov 23, 1:59 AM CST