On the Calibration of Survival Models with Competing Risks

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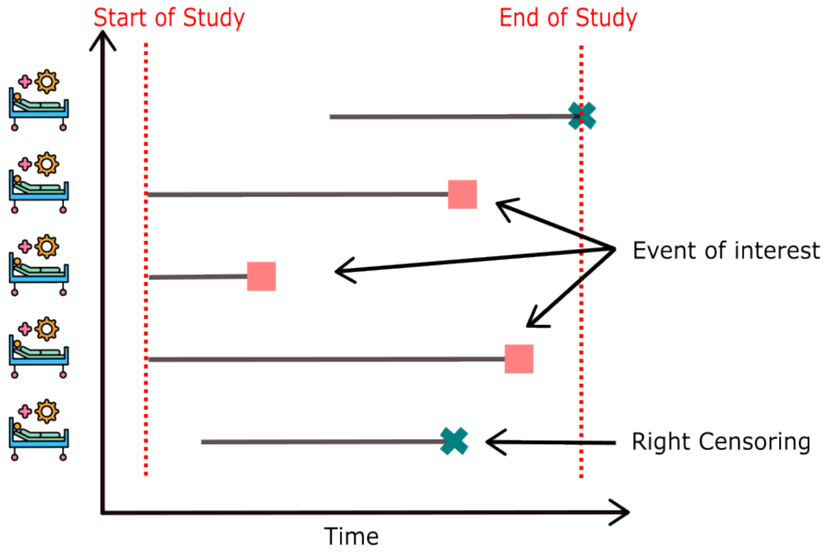
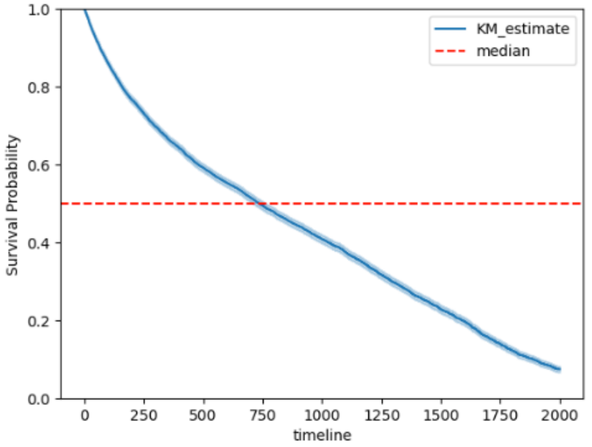
AISTATS 2026, spotlight

Right-censored time-to-event data

Censored patients: patients who didn't experience the event during the observation study.



Goal: Predict the cumulative distribution function of their death for each patient in time.



Competing risks setting

When there is only one event of interest (predict the death, recovery, etc.)

→ Survival Analysis

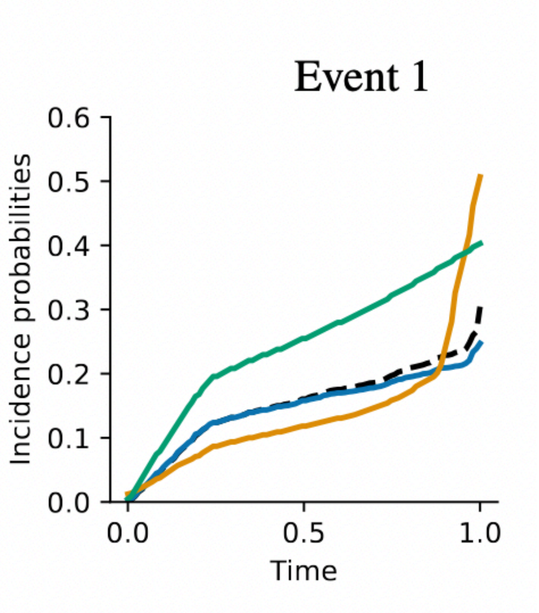
When there are distinct events (e.g., the cause of death).

→ Competing Risks Setting

Our setting!

Modern methods do not behave as expected

Aalen-Johansen (consistent estimator)



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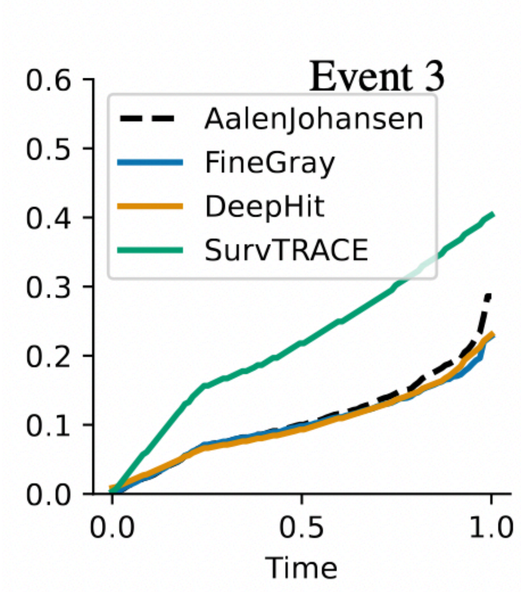

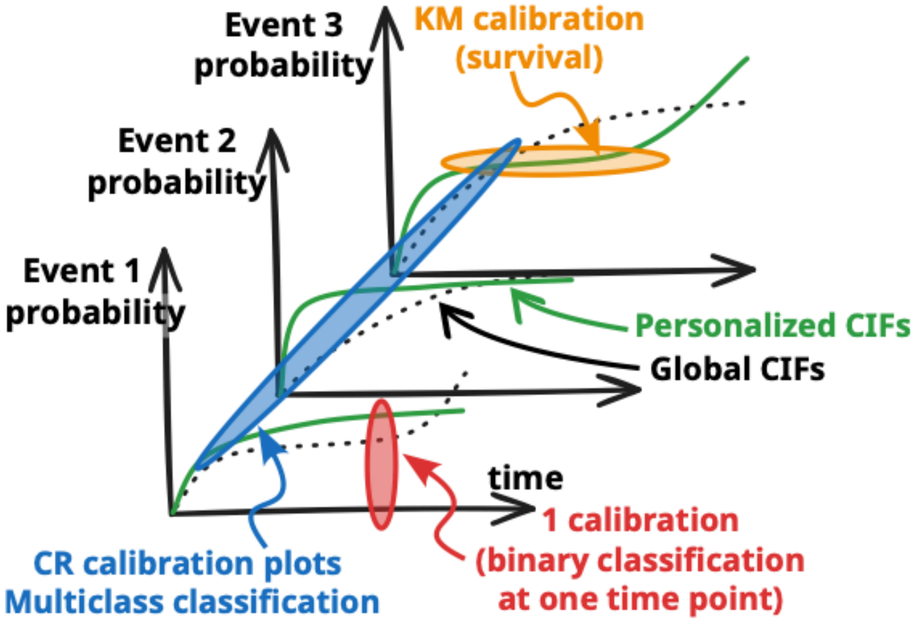

We introduce:

- Two proper calibration metrics.
- Their consistent estimators.
- Corresponding recalibration procedures.

Poster #175
And during the Calibration Workshop tomorrow




Link to the paper: