

Hands-on: lifelines for Survival Analysis

Python library for survival analysis in clinical research

Kaplan-Meier

```
from lifelines import KaplanMeierFitter
kmf = KaplanMeierFitter()
kmf.fit(T, E, label='Group A')
kmf.plot_survival_function()
```

Cox Regression

```
from lifelines import CoxPHFitter
cph = CoxPHFitter()
cph.fit(df, 'T', 'E')
cph.print_summary()
```

Practice Tasks

Load clinical trial data

Plot KM curves by treatment

Fit Cox model

Test PH assumption

Calculate C-index

Make predictions