ISyE 6404 Computer Project #1 (CP-1): Proportion-Hazards (PH)-Regression

All enrichment and computer projects should follow the guidelines stated in EP-1 for preparing and submitting your reports.

1. **PH-Regression Data-Fit (70%)**

   1) Locate *a data set* in the field of your interest, e.g., eCommerce, medical study, drug development, supply-chain/logistics operations, to practice the PH-regression technique. Note that we need to predict both *hazard-rate and the survival function* at an input x_0.

   2) Follow Task #4 in EP-2 to construct a 90% pointwise confidence interval based only the *bootstrap method*.

   3) Skim through the CP-1 references given in Files> Projects> CP-1> Reference> directory to write a two-page report for summarizing the work there.

   4) Outline steps for implementing one of the studied procedure addressed in the reference. You DO NOT need to implement them, but describe how to do it.

   5) Discuss whether the results getting in (2) and (4) might be different (in what way).

2. **Large-p-Small-n Problems in PH-Regression (30%)**

   1) Search the Internet using the key words from the title given in Task #2 for large-p-small-n problems.

   2) Locate three publications with a section on real-life data analysis/example.

   3) Briefly summarize

      i)   what is the goal of the study,

      ii)   key ideas in solving the problem, and

      iii)   what do you learn from their real-life data study.