

Comparison of Random Survival Forest and Cox model with respect to predictive performance: A case study

Tiago Almeida de OLIVEIRA ¹, Pedro Augusto Ferreira da SILVA ², Hiago José Andrade de Albuquerque MARTINS ³, Lucas Cardoso PEREIRA ⁴, Alisson de Lima BRITO ⁵
Ednário Barbosa de MENDONÇA ⁶

Abstract: *The objective was to study the time to total blindness of patients with Diabetic Retinopathy who did or did not receive a laser treatment, using the Cox regression model and the Random Forest Survival models. Were selection the model complete in Random Forest Survival for prediction.*

Keywords: Survival Analysis, Hazard proportionality, Machine Learning.

¹Departamento de Estatística - UEPB. e-mail: *email*

²UEPB - Universidade Estadual da Paraíba. e-mail: *pedro1_20@hotmail.com*

³UEPB - Universidade Estadual da Paraíba. e-mail: *hiago1803@gmail.com*

⁴UEPB - Universidade Estadual da Paraíba. e-mail: *lacascp@hotmail.com*

⁵Pós graduação em Estatística e Experimentação Agropecuária - UFLA. e-mail: *alissonjs95@gmail.com*

⁶Departamento de Estatística - UEPB. e-mail: *eddybarbosa92@gmail.com*