Predicting survival of patients with heart failure from serum creatinine and ejection fraction

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github.com/BorisHenriksen/Coursera_Capstone

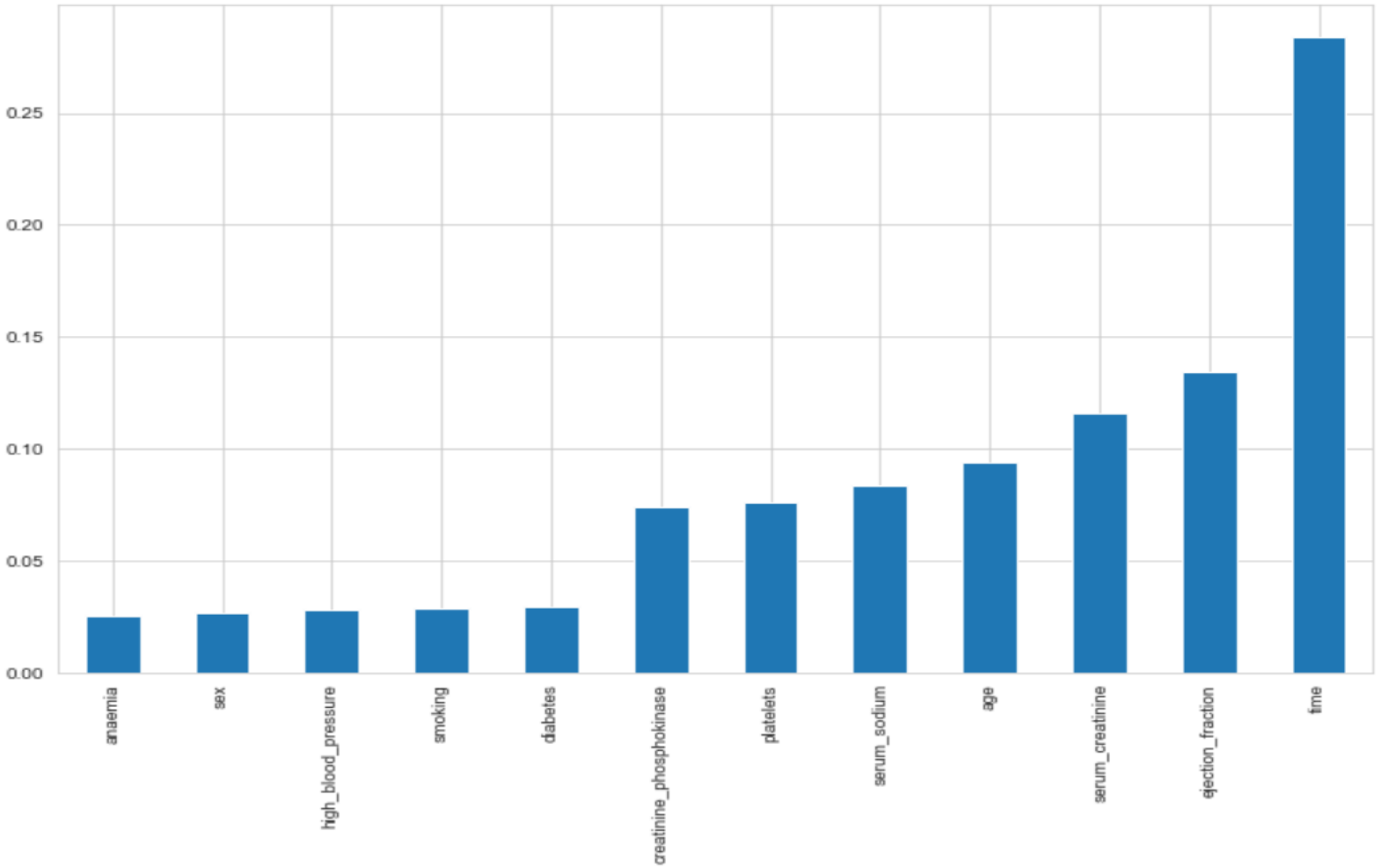
Background for study

- An estimated 17.9 million people died from CVDs in 2016, accounting for 31% of all global deaths. (WHO)
- Most cardiovascular diseases can be prevented by addressing risk factors, but some factors are undetected do to medical practices
- The heart is a vital organ and medical teams may fail to see a patient's risk of heart failure.
- Medical records have a lot of information that is useful, if used

Data

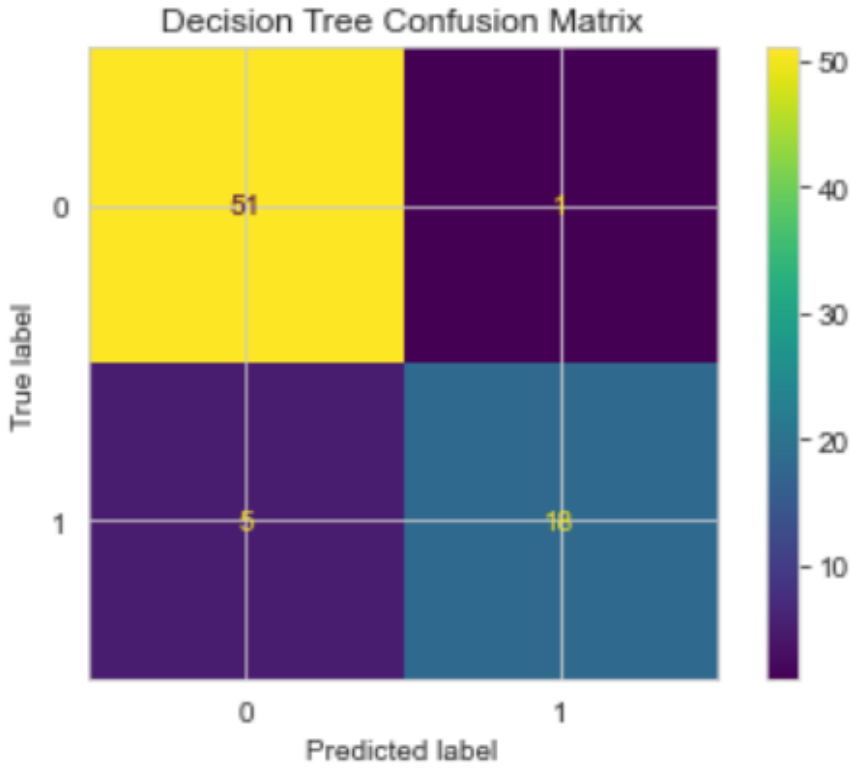
- The dataset contains medical records of heart failure patients collected at the Faisalabad Institute of Cardiology and at the Allied Hospital in Faisalabad, Pakistan, during April-December 2015.
- It has 299 records with 13 features, all of them obtained from patient's medical records

Selecting important medical data



Data analysis shows that serum creatinine and ejaction fraction are highly correlated to death

Decision tree model give doctors an important tool



The report shows that decision tree predictions are highly accurate!

Conclusion

- Using ejection fraction and serum creatinine alone can give doctors an important tool to identify if a patient could die from heart failure.
- Doctors and patients will benefit from using this tool in daily practice.
- The findings of this analysis is easy to implement as data exist on the patients medical record
- Having electronic medical records, this tool could automatically give this information to doctors and removing the risk of an important heart failure factor to go undetected.