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Contemporary issues in static and dynamic prediction

Chen, Yuntao

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Propositions accompanying the thesis

1. A heart failure phenotype stratified model that accounts for different baseline mortality rates and predictor-outcome associations results in better predictive performance for predicting mortality in patients hospitalized with acute heart failure. This thesis
2. Discharge alive from hospital should be considered as a competing risk when developing prognostic models for in-hospital mortality in hospitalized COVID-19 patients. This thesis
3. The joint modeling of longitudinal and survival data closely reflects contemporary trends in medicine: personalized and dynamic. This thesis
4. Misclassification model, an important special case of hidden Markov model, is very useful to account for dynamic change of kidney function with age and potential misclassification of chronic kidney disease stage in evaluating the association between chronic kidney disease stage and new-onset heart failure. This thesis
5. Small improvements in renal function in the middle-aged population may result in an important reduction in the incidence of new-onset heart failure. This thesis
6. Dynamic prediction based on hidden Markov models can improve predictive performance in heart failure mortality prediction by incorporating serial NT-proBNP measurements. This thesis
7. Balancing predictive accuracy and model complexity is important for prediction models to get wider adoption in clinical practice and to be translated into clinical benefit. This thesis
8. 凡物之骤为之而追成焉者，其器小也；物之一览而易尽者，其中无有也。 Things that can be done in a flash are small; things that can be seen through at a glance are shallow. 曾国藩 (Zeng Guofan)
9. 为学读书 须是耐烦。 To learn to read, to be patient. 朱熹 (Zhu Xi)