

# Cas kaggle

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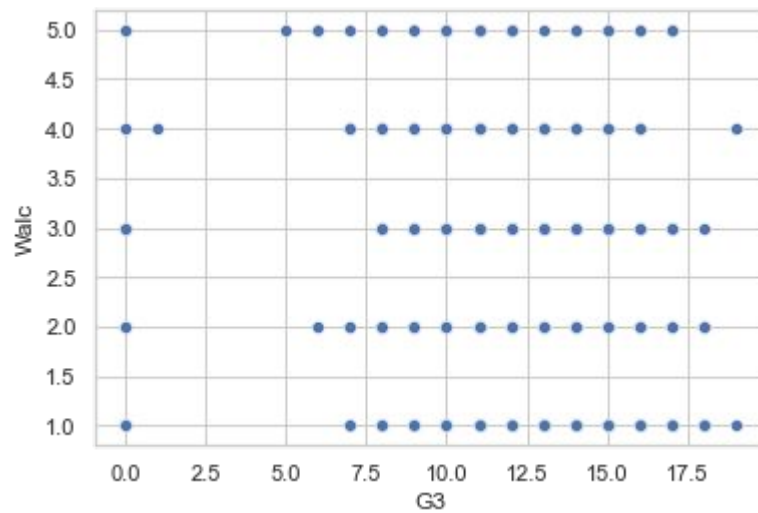
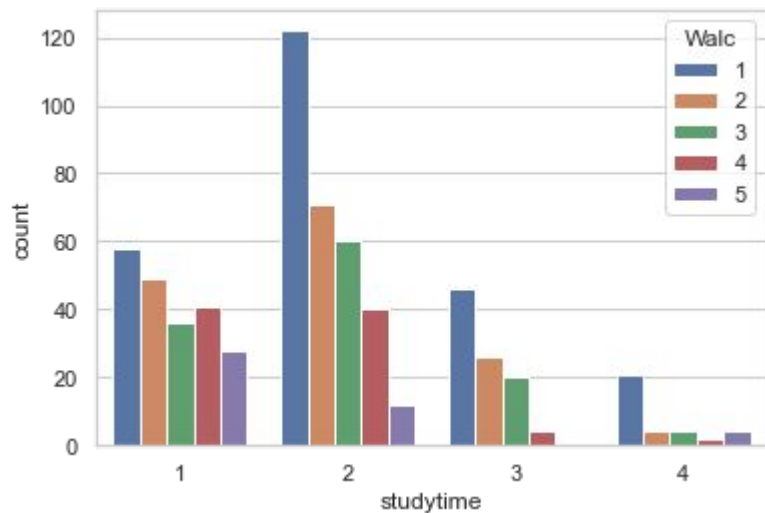
# Introducció

Efecte del consum d'alcohol als resultats acadèmics:

- 649 mostres
- 33 atributs
  - 30 → acosneguits per enquesta
  - 2 → notes parcials
  - ✓ 1 → Nota final (Objectiu)



# Anàlisi de dades





# Mètode d'aprenentatge

## Preprocessing

- ✓ Label Encoder
- ✓ Tractar Outliers
- ✗ Escalar dades

## Models

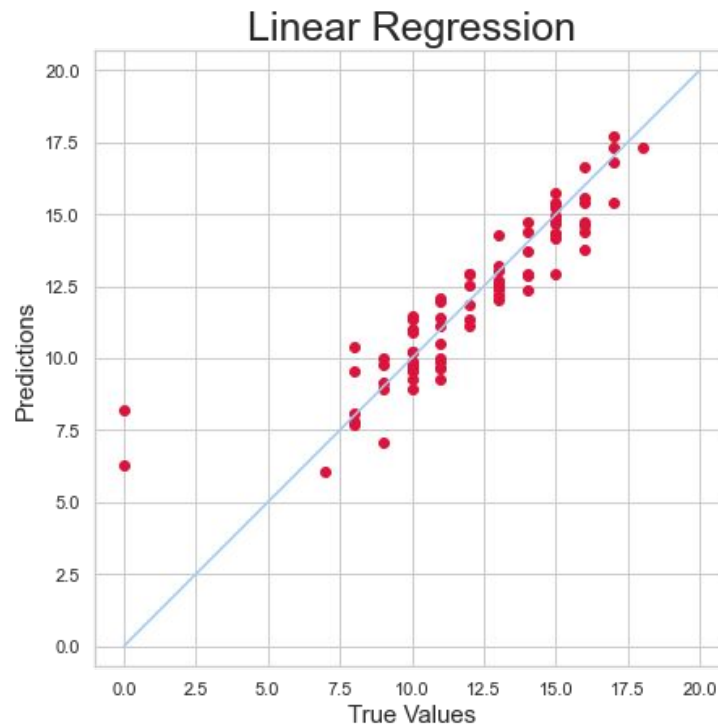
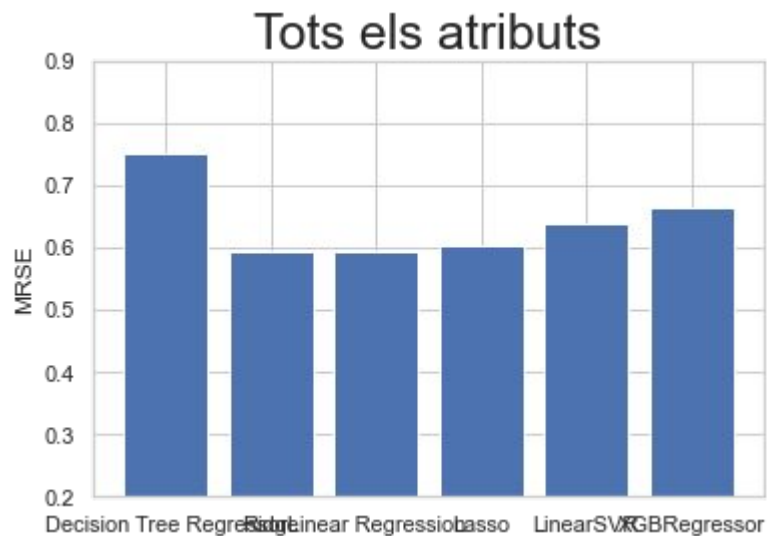
- Decision Tree Regressor
- Linear Regression
- Ridge
- Lasso
- LinearSVR
- XGBRegressor

## Mètodes avançats

- Hyperparameter Search  
(Bayesian Optimization)
- Principal Component Analysis
- Boosting



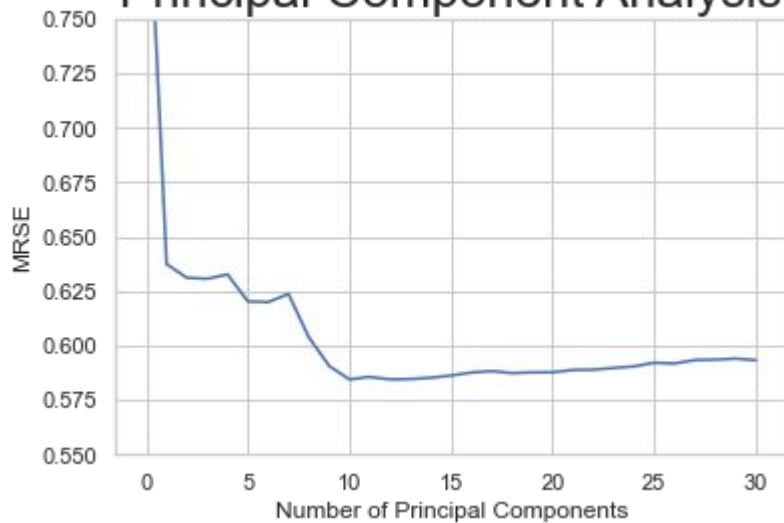
# Resultats



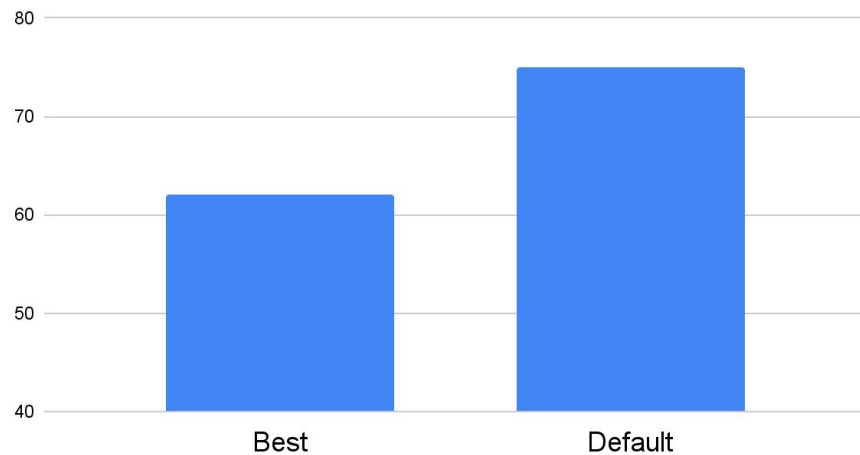


# Millores

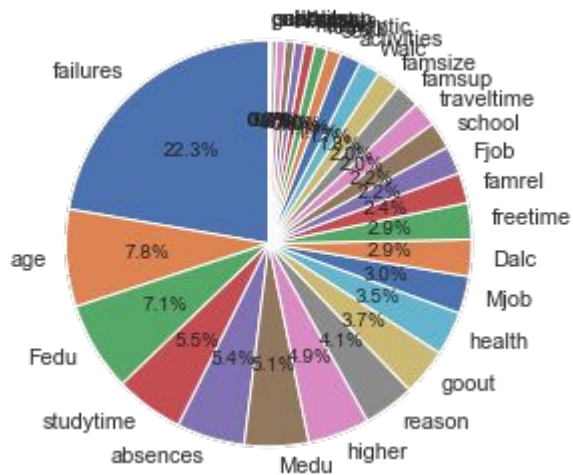
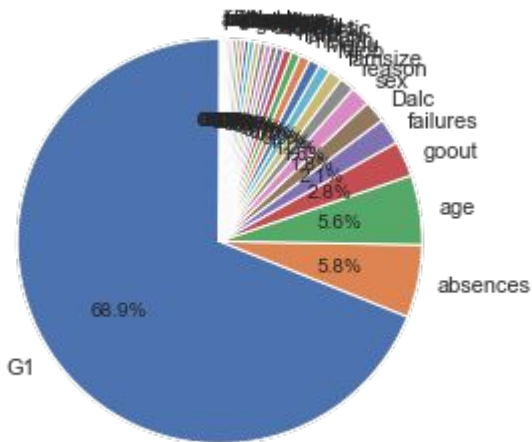
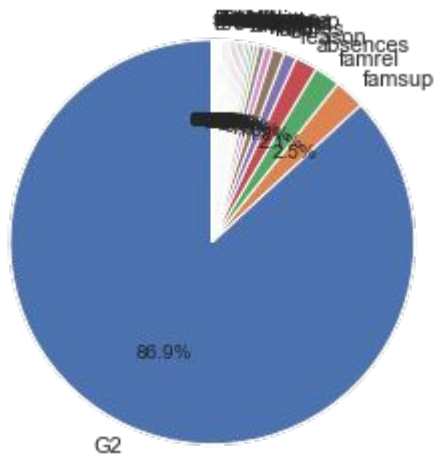
## Principal Component Analysis



## Hyperparameter Search - Decision Tree Regressor

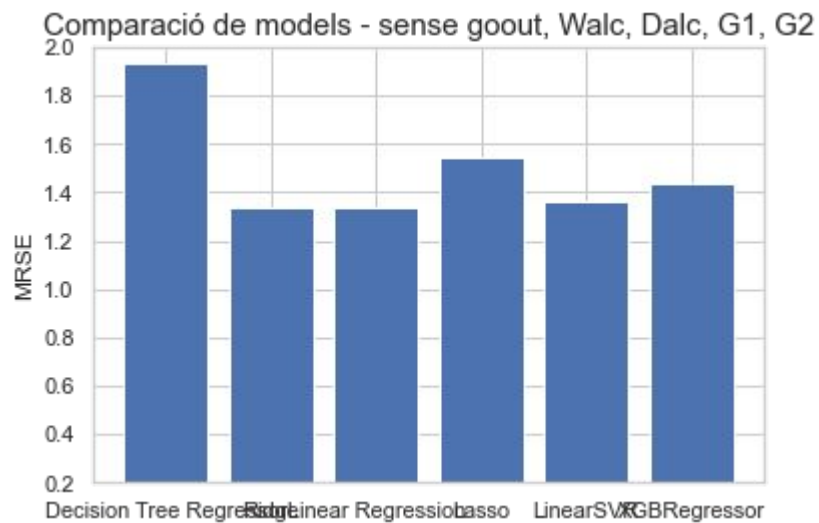
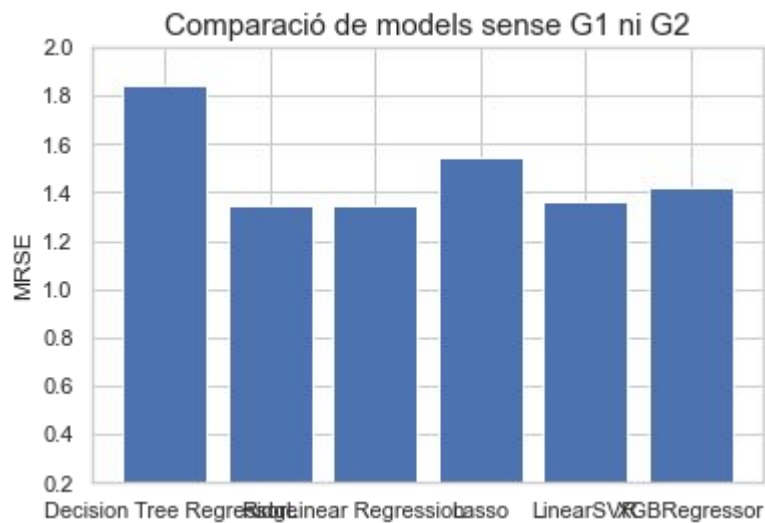


Importància d'atributs  $\rightarrow$  G1 i G2 (notes parcials)





# Altres resultats







# Conclusions

- Bones prediccions en general
- Males prediccions sense notes parcials
- Alcohol no afecta
- Poques dades i molt semblants entre elles