Predicting Concussions in NFL Players

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Motivation

Most football players develop Chronic Traumatic Encephalopathy (CTE), a severe neurodegenerative disease, after their playing careers. Concussions greatly increase the likelihood of CTE development.

- **Study Aim:** Evaluate players to predict their risk for future concussions and suggest potential withdrawal from play, consequently reducing CTE rates.

Methods

- Studied dataset from PBS Frontline listing concussed players from 2012-2015
- Used whether or not a player was re-concussed in next two years as the outcome variable
- Trained various models on the data

Machine learning **can** non-invasively **predict future concussions** in NFL players with **75% accuracy**.

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References

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"Concussion Watch." *PBS*, Public Broadcasting Service, 2015, www.pbs.org/wgbh/frontline/article/concussion-watch/.

Results