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PREDICTING PITCHING INJURIES IN MAJOR LEAGUE BASEBALL

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Mentor: Nan Lin

Over the past few decades Major League Baseball has seen a steady increase in the amount of injuries facing pitchers. Given the continued expectation of professional pitchers to perform seemingly inhuman tasks, e.g., throwing a ball 90 miles per hour 100 times in a row, the stress on their arms is not surprising in the least. While the injuries may not be surprising, past theories from medical and statistical standpoints that have attempted to explain their primary cause show minimal degrees of success. The lack of predictive ability in pitching injuries caused by fatigue, overuse, or one just bad pitch not only causes great pain for the player, but also creates unwelcome challenges for teams competing for championships. Our goal in this paper is to develop a statistical model using many seasons of in-game data that will predict when pitchers are at a higher chance for injury and what factors contribute to this increased risk.