Vita

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Attended: University of New Brunswick (2016)
                     Bachelor of Arts & Science

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                     Master of Science

Machine Learning Implementations in Baseball: An Algorithmic Prediction of the Next Pitch

UNIVERSITY OF NEW BRUNSWICK

THESIS DEFENCE AND EXAMINATION

in Partial Fulfillment

of the Requirement for the Degree of
Master of Science

by

Jacob Andrew Morehouse

in the Department of Mathematics & Statistics

U.N.B., Fredericton, N.B.
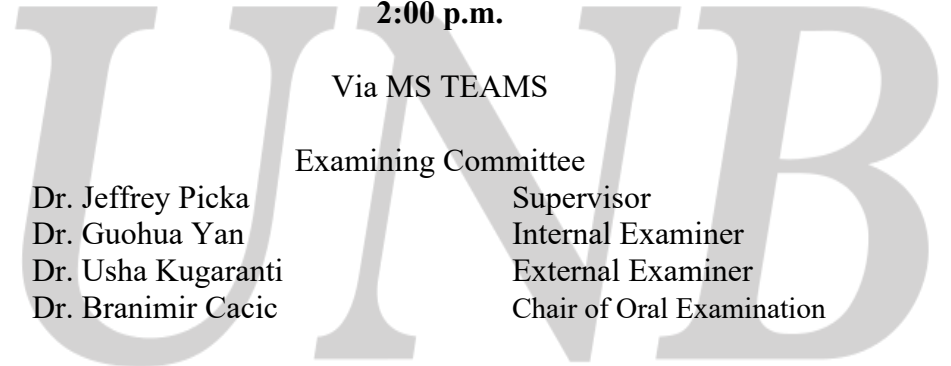
Tuesday, September 8th, 2020
2:00 p.m.

Via MS TEAMS

Examining Committee

Dr. Jeffrey Picka	Supervisor
Dr. Guohua Yan	Internal Examiner
Dr. Usha Kugaranti	External Examiner
Dr. Branimir Cacic	Chair of Oral Examination

Abstract

Machine Learning (ML) has recently begun gaining traction in the statistical analysis of baseball. Major League Baseball (MLB) has a long history of using statistics to evaluate players, but recent innovations in player tracking have introduced the opportunity for ML to flourish. Statcast is a new tracking system that generates detailed data pertaining to the movement of both the players and the ball using cameras and radar technology. This paper will examine the functionality of predictive models using this data and their applications in baseball. As an example, we will attempt to predict which type of pitch a pitcher will throw next. Random forest and support vector machine algorithms will be created for this learning task.

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