Patrick Kough McFarlane

patmcfarla@gmail.com ‖ (215) 499-1524 ‖ 7 Daffodil Place, Newtown, PA 18940 ‖
https://github.com/basketballrelativity

EDUCATION

Massachusetts Institute of Technology

Master of Science in Air Transportation
Feb 2016 | Cambridge, MA

University of Notre Dame

Bachelor of Science in Aerospace Engineering
May 2014 | Notre Dame, IN
GPA: 3.88/4.0
Dean's List: All semesters
Engineering Honors Program

COURSEWORK

GRADUATE

-Advanced Probability and Statistics
-Data Mining
-Machine Learning
-Optimization
-Statistical Modeling
-Airlines and Airports
-Air Transportation

UNDERGRADUATE

-Incompressible and Compressible Aerodynamics
-Linear and Nonlinear Differential Equations and Controls
-Mechanics and Dynamics
-Solid and Orbital Mechanics
-Mathematical Methods
-Thermodynamics and Heat Transfer

SKILLS

Advanced
- Python, R, MATLAB
INTERMEDIATE
-SQL, FORTRAN, Tensorflow, Player Tracking Data
BEGINNER
-Javascript

EXPERIENCE

Philadelphia Phillies - *Quantitative Analyst*
Philadelphia PA, January 2018 - Present

-Developing machine learning models to inform all aspects of baseball operations, including front office and in-game related projects.
-Introducing state of the art technology to coaches, instructors, and player development staff.
-Working closely with stakeholders on implementation of research, models, and findings from the Baseball Research and Development department.

Bloomberg LP - *Data Engineer*
Princeton, NJ, January 2017 - October 2017

-Applied data science and machine learning techniques to improve the workflow processes of the Mutual Funds group.
-Developed data mining capabilities to reduce team workload.
-Utilized natural language processing for automatic extraction of key fields from text documents.

The MITRE Corporation - *Senior Systems Engineer*
McLean, VA, February 2016 - December 2016

-Performing aviation safety analysis with data from millions of flights.
-Using data mining and machine learning to improve the safety of US airlines and the National Airspace System.
-Managing the needs of multiple stakeholders, including government and industry.

Charlotte Hornets - *Basketball Analyst Intern*
Charlotte, NC, April 2015 - August 2015

-Worked within the Basketball Operations Department on several projects related to the 2015 NBA draft.
-Lead machine learning efforts to better understand the skill and potential of amateur and NBA players.
-Pioneered an exploratory project based on unsupervised clustering of players based on Synergy statistics.