Derek Topper

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EDUCATION

University of California, Berkeley School of Information, Berkeley, CA

- Master of Information and Data Science (Graduation Fall 2021)
- B.A. Data Science (Graduated Spring 2019)

***Relevant Coursework*:** Deep Learning, Machine Learning, Principles and Techniques of Data Science, Data Science Programming, Data Engineering, Data Experiment Design, Statistics, Data Structures, Analyzing Cultural Data, NLP

SKILLS: Python • R • SQL • SAS • Machine Learning • Computer Vision • AWS • Java • Spark • Tensorflow • Deep Learning

EXPERIENCE

Tampa Bay Rays Baseball Club, St. Petersburg, FL, *Baseball Research & Development Intern*, 2021 - Present

- Used Python, R, SQL and machine learning methods like XG Boost, to explore solutions to existing baseball problems through statistical modeling and data analysis and to present research findings to senior-level staff
- Championed baseball research projects through ideation, API ETL processes, data engineering, data preparation, model tuning and data visualization for a team that won a franchise-record 100 games and the American League East.
- Aided team through research projects, ad-hoc programs and automated reports, to help with a variety of aspects of Baseball Operations efforts, including on-field performance, salary analysis, amateur scouting, player projection and sports science

Orlando Magic Basketball Club, Orlando, FL, *Basketball Analytics Associate,* 2019 – 2020 Season

- Assisted in the development of various predictive processes, such as draft modeling, season simulation and player evaluation tools to distill complicated data science insights into a simple format to help our front-office staff utilize data
- Created, communicated and maintained automated reports and processes that employed analytical techniques to identify undervalued players, league-wide trends, referee tendencies, opponent strengths and weaknesses and scouting insights.
- Developed ad-hoc programs and reports, to assist all aspects of Basketball Operations, including scouting, sports science and coaching analytics, using SAS, SQL, Python, and R.

New York Islanders Hockey Club, Floral Park, NY, *Business Operations Data Scientist,* 2019

- Led efforts to optimize ticket strategy through the development of multiple ML-based attendance and revenue models.
- Helped to double our season-ticket member base through fan breakdown analyses, retention modeling and lead scoring.
- Generated the team's ticket pricing structure, by establishing game tiers, ticket prices and revenue projections for future seasons, and worked closely with team leadership to turn such analyses into an actionable pricing strategy for our team.

Phoenix Suns Basketball Club, Phoenix, AZ, *Business Analytics and Data Science Intern,* 2018

- Created an interactive dashboard examining Ticketmaster Resell data to allow various team executives to understand the single game operations of our secondary market, using SAS, SQL and TIBCO Spotfire.
- Produced various statistical models to dynamically predict individual game ticket sales and developed a variable pricing structure that set prices for each of next season's games, so the team could decide how much to sell each game for.
- Discovered over 46,000 previously unidentified illegal "Broker" seat resales, which could save the team over $3.4 million.

New York Mets Baseball Club, New York, NY, *Business Analytics and Data Science Intern,* 2017

- Managed and examined the strategic planning of daily Citi Field food, beverage, merchandise, memorabilia and promotional operations and provided daily reporting to explore trends within our day-to-day undertakings.
- Crafted exploratory methods to improve Venue Services campaigns and undertakings through various predictive Python analytics, data metrics, enterprise decision management techniques, investigative reports, and customer surveys.

PROJECTS

- Previous projects are available at derektopper.com. Sample project titles include: *Neural Networks to Predict Populations From Satellite Imaging Data, Network Analysis of Sports Fandom, A Computer Vision Based Approach to Facial Recognition, NBA Foul Rule Changes and Expected Points, Honda Parking Availability, Topic Modeling Death Row Inmates' Last Words, Data Analysis of the Rising Tuition and Its Effects on Students, A Regression-Based Experiment on the Grammar of Attraction, Using PEGASUS to create Scientific Summarizations, A Machine Learning at Scale Framework to Flight Delay Prediction, and PyLabel: A Python Package to Convert between Computer Vision Image Annotation Formats*