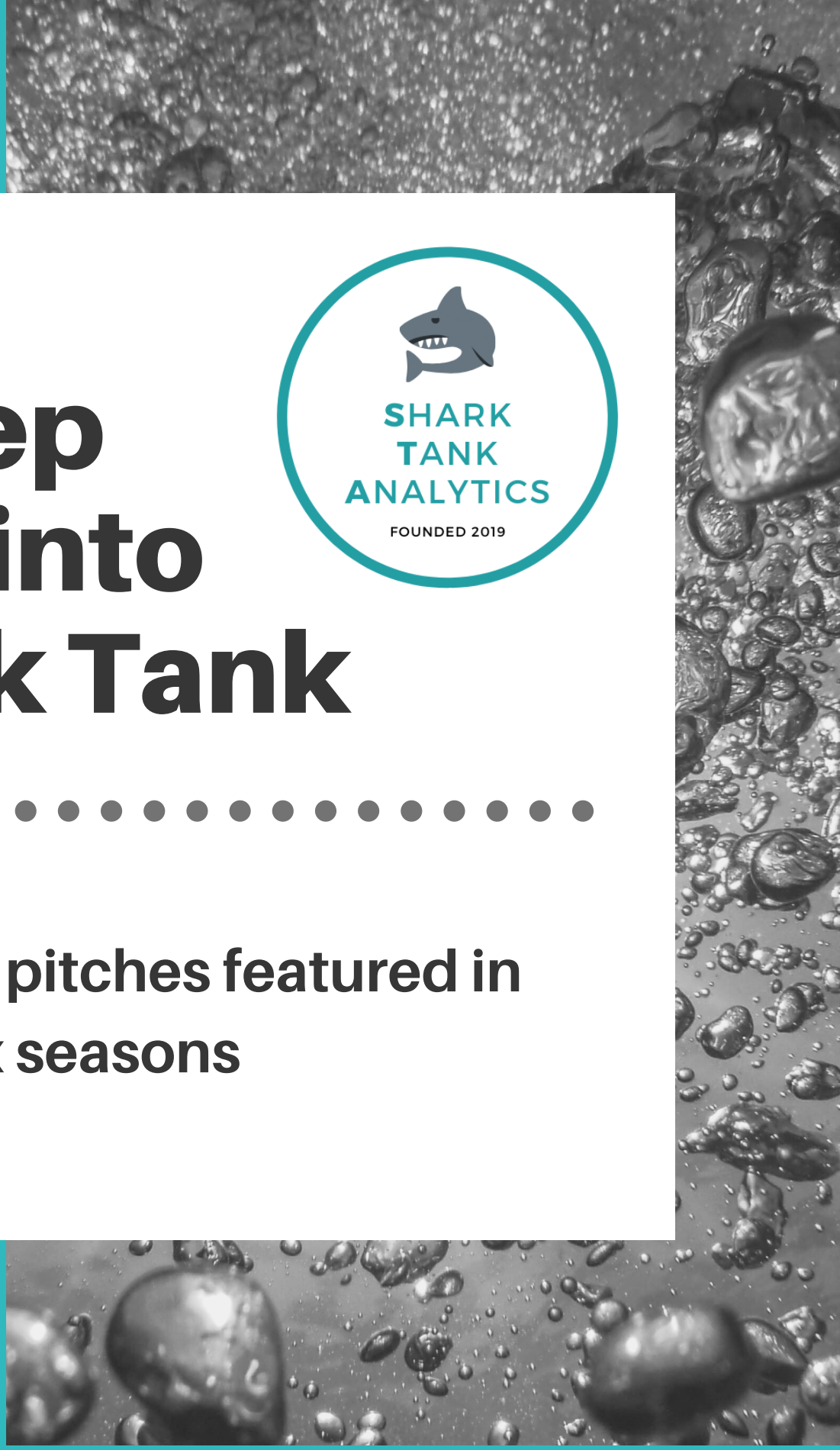

A deep dive into Shark Tank

SHARK TANK ANALYTICS
FOUNDED 2019

EDA of the pitches featured in the first six seasons

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Purpose: Final Report - Introduction to Data Science with R
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The report provides an overview of EDA SharkTank app, created for the purposes of Introduction to Data Science with R course, and is structured in five short paragraphs: introduction to the app, three sections representing the functionalities (tabs) of the app and the conclusion that covers key project/class learnings.

Link to the app: https://andreamoskovljevic.shinyapps.io/SharkTank/

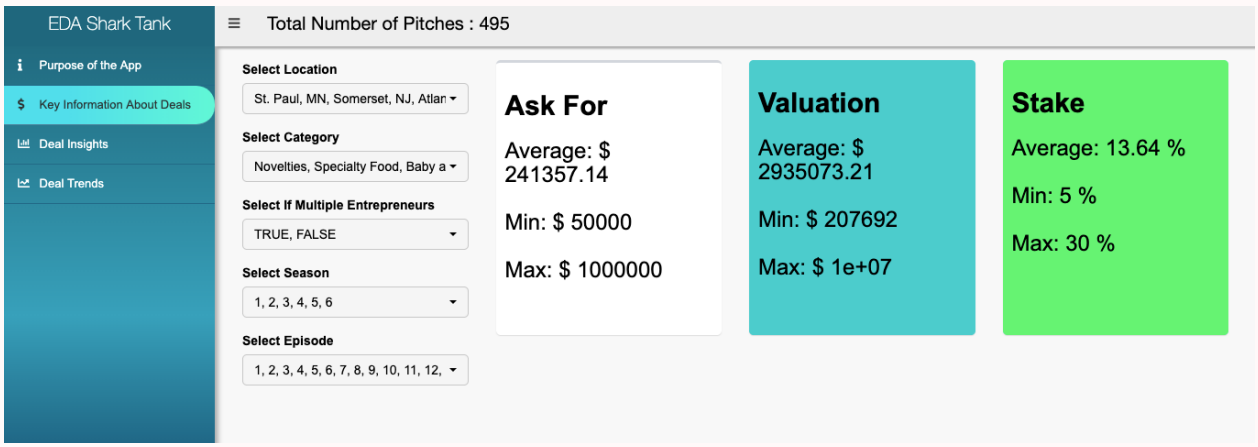
Introduction To The App

Starting a business is difficult. Gaining the recognition for the business idea and getting the initial investment can be equally, or even more challenging.

The purpose of the app is to support entrepreneurs, who are interested in starting their new ventures, by providing basic insights on which variables play a key role when it comes to getting an investment. It focuses on exploring the data from the popular U.S. based TV Show "Shark Tank", where entrepreneurs pitch business ideas to a panel of seasoned investors (the sharks). I believe that the challenges and triumphs of the entrepreneurs featured on Shark Tank can be relatable to other business owners, thus I wanted to perform the extended data analysis of the business pitches and their corresponding variables that appear when getting the deal.

The data used for building this application includes: All 495 pitches featured on the show (episodes aired during the first six seasons); whether or not each made a deal; business specifics (industry category, location, ownership structure); and financial deal specifics ($ amount, % equity, valuation).

Section #1: Key Information About The Deal

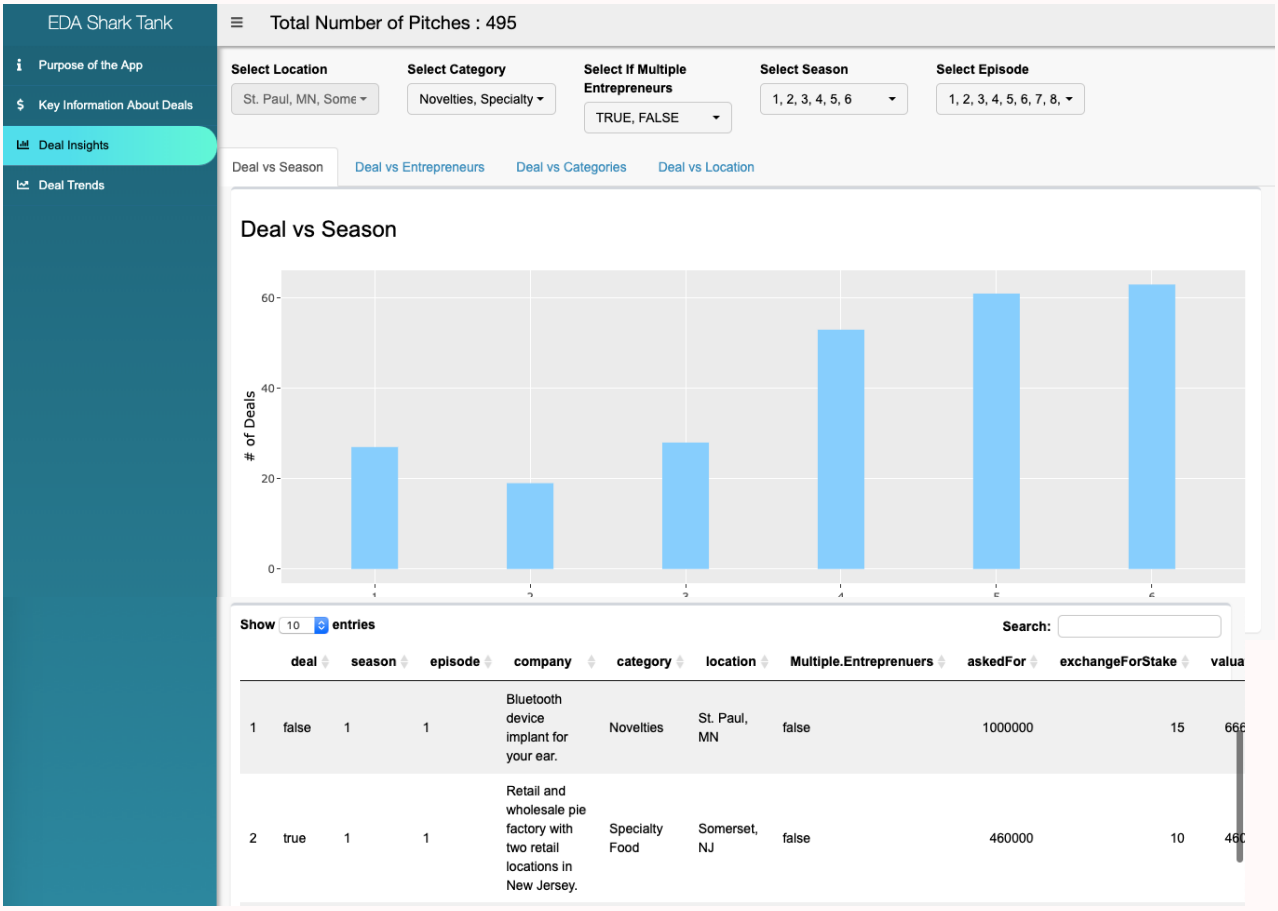


Overview: The first section of the app, "Key information about the deal", answers the question of how does the average Shark Tank deal look like - money-wise.

How it works: In this section, through the selection of the preferred business specifics inputs (category, location, team structure, season), the user can gain insights on nine key performance indicators. Three statistical operations (average, minimum, maximum) are displayed for each of the three financial deal specifics: AskedFor, Valuation, Stake.

Insights example: We can see that in general the average "Shark Tank" contestant asks for $241k, is willing to sacrifice only 13% of the company, and seeks a $2.9m valuation.

Section #2: Deal Insights



Overview: The second section of the app helps users identify how do business specifics (industry category, location, ownership structure) impact the chances of getting the money. The goal of it is to discover the impact of single independent variables on the dependent one (deal/no deal).

How it works: App provides four insight tabs, where each tab includes a graphical overview and the corresponding data table. Tabs are the following:

Deal-Season: How likely are you to get a deal if you are in the first / last season?

The number of venture capital (VC) investments in the U.S. companies hit $100B last year, shaping up 2018 to be a banner year for the VC investments. Determining the increase in investment trends is of great value for users. The graph shows the development of deals across time (season).

Deal-Entrepreneur: How likely are you to get a deal if you are individual / team?

A big part of any successful business is the team. This section gives the user the opportunity to explore the correlation between "scoring" a deal and the team structure, and understand if pitching as an individual/team impacts investors' decision. The graph shows the probability of getting a deal if you are a single entrepreneur (FALSE) or a team (TRUE).

Deal-Industry: What are the categories with most deals?

Here the user has an overview of deals broken down by the business industries/categories. This section is important to understand if the industry of the business is recognized on the market and if it is perceived as "hot" by the investors. The graph shows the total number of deals for the top ten categories in general.

Deal-Location: What is the location with most deals?

The business destination is one of the important variables to be taken into consideration when starting a venture. Investors focus on developed ecosystems when investing, thus understanding the top location for starting a business represents a valuable insight for the user. The graph shows the total number of deals for the top ten locations across the United States.

Insights example: We can conclude that the number of deals is increasing, thus this can mean an increase in higher-quality, more investment-worthy businesses. Additionally, investors prefer single entrepreneurs and are mostly interested in specialty food, novelty, and children related businesses. Location wise, East Coast is leading with number of deals.

Section #3: Deal Trends

Overview: Finally, in the third section user can understand the main changes of independent variables throughout the course of time (in our case six seasons), for the deals that were backed up by the sharks.

How it works: App provides five graph overviews:

- One scatterplot graph representing the number of pitches backed up throughout the seasons – the investment trend;
- One line graph representing the number of certain categories increase/decrease throughout the seasons (top four categories with the highest number of deals);
- Three box plot graphs covering the deal's valuation/exchange /askedFor change throughout the seasons.

Insights example: Over time, the popularity of certain industries has changed. Between season 1 and season 6, the probability of getting a deal for specialty food-related businesses increased. In that same period, ideas for children's products plummeted.

Conclusion

R will always be my first meeting point with data science. Its easiness to implement statistical methods, perform analysis and modeling is of great value for any (young) professional interested to pursue analytics career. .Having the opportunity to connect R with my professional preferences and gain a deeper understanding of the process and logic behind the investment strategy, represents a huge learning experience for me, both from data science and VC perspective. Building logic through the course of three months and working on different kinds of statistical analysis will be of great value for my future professional development.