

**To: Your Team**

**From: Toni Bouie**  
**Director of Donations**  
**University of Somewhat Frustrated (“USF”)**

**Subject: Donor Data Analysis**

*Glad we are able to get some of your time to work on this important project. Here’s the background:*

*Like most private institutions, we rely pretty heavily on our alumni to provide financial support for our programs. Unfortunately, we have not had the level of participation that we would like. In fact, we have over 120,000 alumni in our database, but more than 2/3 of them have NEVER made a donation!*

*This year, my boss Paulina Scott (VP of Development) has asked my team to try something new. We have designed a new outreach program to generate a significant number of new donors from our alumni population. But this outreach program (code name: **Pilot Promotion Program**, or “PPP” for short) will cost us some money, so we plan to start by testing it out on just a small number of folks. For the PPP, we are planning to focus on a set of 10,000 alumni who have not made donations in the past.*

*That’s where your team comes in. We need you to look at our database, identify the characteristics of our best current donors, and then build a model to help us identify which alumni are more likely than others to make donations. From there, we will want you to select which 10,000 alumni to include in the PPP. Again, these should be folks who have not made donations in the past but who your analysis suggests are more likely than others to make substantial donations.*

*Our database administrator has been working really hard to organize the data but it is still a bit messy. There’s an overview of the data that we are providing to you at the end of this memo.*

*You do not have a lot of time to conduct your analysis and summarize your recommendations. We have a time set up for you to present your findings to Paulina and the rest of her team. It should be a short presentation, no more than 10 - 15 minutes. Some things to think about as you conduct your analysis and prepare your presentation:*

- *From a modeling perspective, we have provided you with two potential response variables: the number of gifts that an alum has made in the past ten years and the total amount of money donated in the past ten years. Beyond that, we have provided you with some descriptive information about our alumni: when they graduated, what school/major, their address information (if available), gender, whether they are married to an alum, whether or not they were involved with certain programs, etc. Your challenge is to use this data to come up with a model that estimates the likelihood of giving (and/or expected donation amount) for each alum, and to use those estimates to select 10,000 of the most promising non-donors in the database.*
- *Your presentation should include a quick summary of what you have learned from our current data. Specifically, up front, it will be helpful for you to identify some of the factors that differentiate donors from non-donors in our historical data.*

- *You will also want to include a description of your prediction model(s) and to identify the variables that have the most significant impact on whether or not an alum is likely to be a donor. I know some of the models that you are likely to use are pretty complicated, but you need to take great care to make your model descriptions as clear and easy-to-understand as possible.*
- *Finally, be sure that your presentation provides a description of the 10,000 alums that you are recommending for our PPP. Remember, we want to focus the PPP on alumni who have not made donations in the past but “look like” people who have made substantial donations – and it will be essential for you to explain the characteristics of these people and why you have selected them. Examples are often really helpful in making these types of descriptions/characteristics to life, especially for a non-technical audience like this one.*
- *Most importantly, it will be vital to organize your presentation as a story that Paulina can follow and relate to. She’s in so many meetings staring at so many charts, and I’ve seen her lose interest more than once. The whole key to getting her to trust your recommendations is to make the explanation of who you are recommending for the PPP as clear as possible – and to enable her to get a feeling for why. Remember, she’s a “suit,” not a “nerd.” She’s really smart and quick on the uptake, but whatever formal statistical models she might have learned in school are long forgotten by now. Her focus is on helping us turn the PPP into a successful program that enables us to effectively turn more of our alumni into donors.*

*My team has a lot of confidence in the PPP, but we want to make sure we start out on the right foot. If we are successful with this group, we will be in a good position to make a case that we can really improve our donor rates by expanding the program in the future.*

*This is an important project for USF, and I’m really counting on your team. Please let me know if you have any questions.*

## Overview of Alumni Donation History Dataset

Data from several different systems has been aggregated into a single table in the ***DonationHistory.csv*** file, which will be made available to you. Each record in this table contains information associated with a specific USF alum, and the fields in this table are described below.

Variable Name	Variable Description
<i>ACCOUNT_ID</i>	A unique identifier associated with this individual
<i>NUMBER_OF_DONATIONS</i>	The number of donations made by this alum over the previous 10 years
<i>VALUE_OF_DONATIONS</i>	The total value (in US\$) associated with all of the donations made by this alum over the previous 10 years
<i>ALUMNI_TYPE</i>	Either undergraduate or graduate
<i>CITY</i>	City in which this alum lives
<i>STATE</i>	State in which this alum lives
<i>ZIP</i>	Zip Code in which this alum lives
<i>MI</i>	Alum's Middle Initial
<i>UG_CLASS_YEAR</i>	The calendar year in which the (undergraduate) alum graduated from USF If blank, then this record does NOT correspond to an undergraduate alum
<i>UG_SCHOOL</i>	The specific school within the University from which the (undergraduate) alum received his/her degree If blank, then this record does NOT correspond to an undergraduate alum
<i>GRAD_DEGREE</i>	The specific graduate degree received by this (graduate) alum If blank, then this record does NOT correspond to a graduate alum
<i>GRAD_CLASS_YEAR</i>	The calendar year in which the (graduate) alum graduated from USF If blank, then this record does NOT correspond to a graduate alum
<i>GRAD_SCHOOL</i>	The specific school within the University from which the (graduate) alum received his/her degree If blank, then this record does NOT correspond to a graduate alum
<i>GENDER</i>	M = Male ; F = Female
<i>MARRIED_TO_ALUM</i>	1 if this alum is also married to a USF Alum ; 0 otherwise
<i>ROTC</i>	1 if this alum was part of USF's Army Reserve Officer Training Corps (ROTC) ; 0 otherwise
<i>JC</i>	1 if this alum served as a dormitory Junior Counselor (JC) during his/her time at USF ; 0 otherwise