Assignment 1: Capstone Project Ideas

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Project Idea #1: *Predicting Voter Turnout in Arizona*

Anticipating who will vote in an election is critically important to a variety of stakeholders including politicians, advocacy groups, and polling agencies. Despite its importance, predicting voter turnout is often difficult and prone to error. For this project, I propose using the *Arizona Voter Registration Database* (AVRD)*,* in combination with readily-available historical data and data from the American Community Survey, to predict future voter turnout. The AVRD contains the following information for all registered voters:

* Year of birth
* Year of registration
* Party ID
* Full address
* Voting history in primary and general elections going back to 2004
* An indicator for whether the voter pulled a Republican or Democratic ballot in primary elections (independents can choose to vote in either party’s primary).

I would combine these data with past election results and demographic features of voters’ communities to predict voter turnout.

Project Idea #2: *Identifying Arizona School Districts that are Likely to Pass a Bond or Override*

When Arizona school districts wish to generate revenue in excess of their established tax rate, they must gain the approval of voters via a bond or capital override election. Putting a bond or override before voters is costly. Therefore, districts would benefit from knowing whether a ballot measure is likely pass or fail. For this project, I propose using data collected by the Arizona School Boards Association that includes the results of every bond and override election in Arizona going back to 2004. I will link the bond and override data to district-wide student demographic and achievement data to predict the likelihood that a future bond or override ballot measure will pass.

Project Idea #3: *Predicting School District Transportation Expenditures*

Arizona’s current school funding formula results in several inefficiencies that often underfunds some schools while overfunding others. One particularly problematic aspect of the formula is are how transportation funds are allocated. With this project, I propose using data collected by the Arizona School Boards Association to develop a model that predicts districts’ transportation expenditures more accurately than the current formula. To do this, I will use district-level data that describes the total transportation miles within a district’s boundaries, student enrollment, districts’ geographic location, number of school days, and special education student enrollment.