



Examining Personality Traits of Analytics Talent and Their Career Placement

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ABSTRACT

This research investigates personality traits and career placements among graduates from Purdue's Master of Business Analytics and Information Management (BAIM) program. We posit that certain personality profiles may be predictive of future career functions (e.g., Consultant, Data Scientist, Analyst, etc.). Some research has suggested that "ideal" analytics and data science talent have specific "Big 5" personality traits: extroversion, agreeableness, conscientiousness, neuroticism, and openness to experience. We designed and distributed a Qualtrics survey to all MS BAIM alumni and received 152 responses (69% of BAIM alumni) that measured demographics, past educational experience, industry and career title, as well as 50 Likert-scale questions about their individual Big 5 personality traits. We contrast MS BAIM program alumni personalities to suggested analytics-talent personalities and reveal which personality features are drivers of future job types.

INTRODUCTION

Currently, the main factors that a job seeker considers are the benefits and salary of the job that they are applying to. However, many students skip the crucial step of considering whether their personality fits the job with their preferred salary. The fall out of only considering salary and benefits can lead to unhappiness in a job which is not good for mental or physical health.

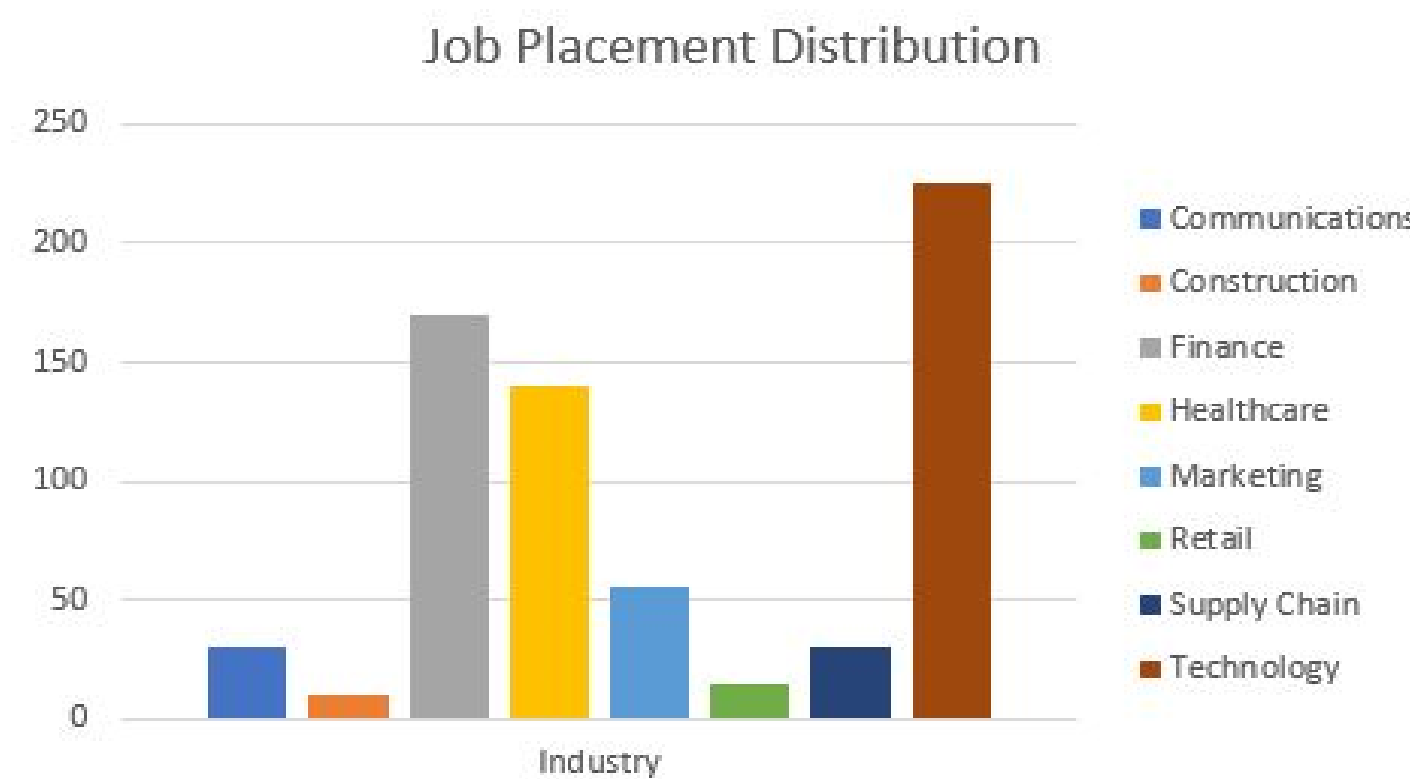


Figure 1

A New York Times article *Job Satisfaction vs. a Big Paycheck*, references Daniel H. Pink, author of "Drive: The Surprising Truth About What Motivates Us" saying: "Generally, people flourish when they're doing something they like and what they're good at." Figure 1 describes the wide range of opportunities that MS BAIM students have post-graduation. When a student takes the personality survey, they will be able to view careers that fit their personality.

Our research questions:

- What personality features are drivers of future jobs?
- What career field is best for a student given certain personality traits?

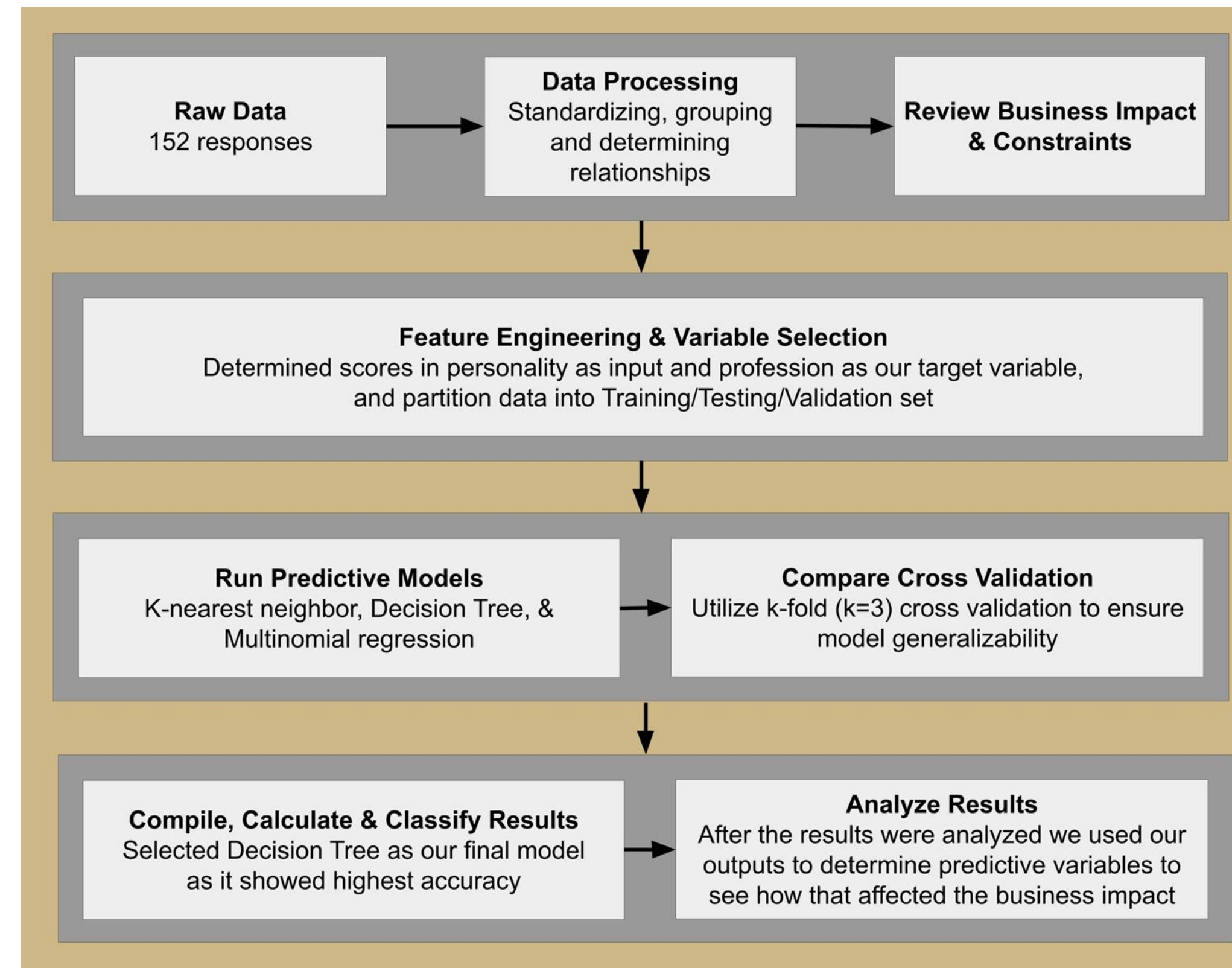
LITERATURE REVIEW

The academic literature discuss how personality traits impact various subjects such as career ethics, leadership, life satisfaction, job functions, and career paths. Other articles focus on how personality compares across groups, correlates to or effects these subjects, while our analysis pertains to using predictive analytics to develop a model of ideal personality traits for analytically trained/skilled personas.

Author	Year	Personality	Business	Analysis	Subject
Heady et al.	2020	●	●	Predict	Career
Brown	2010	●	▲	Comparison	Ethics
Davenport	2012	●	▲	Comparison	Data Scientists
Unsar	2013	●	●	Effect	Leaders
Lounsbury	2010	●	●	Correlation	Life Satisfaction
Alkhelil	2016	●	◆	Correlation	Career

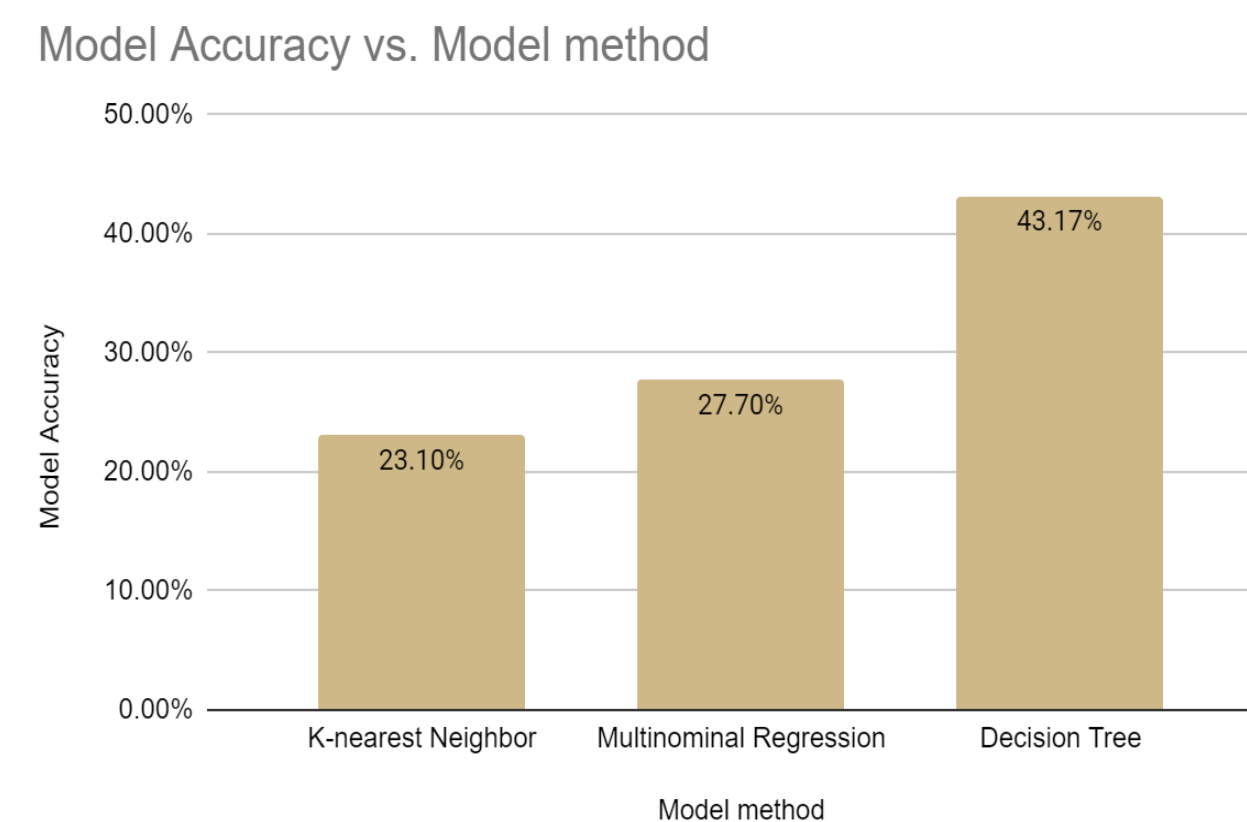
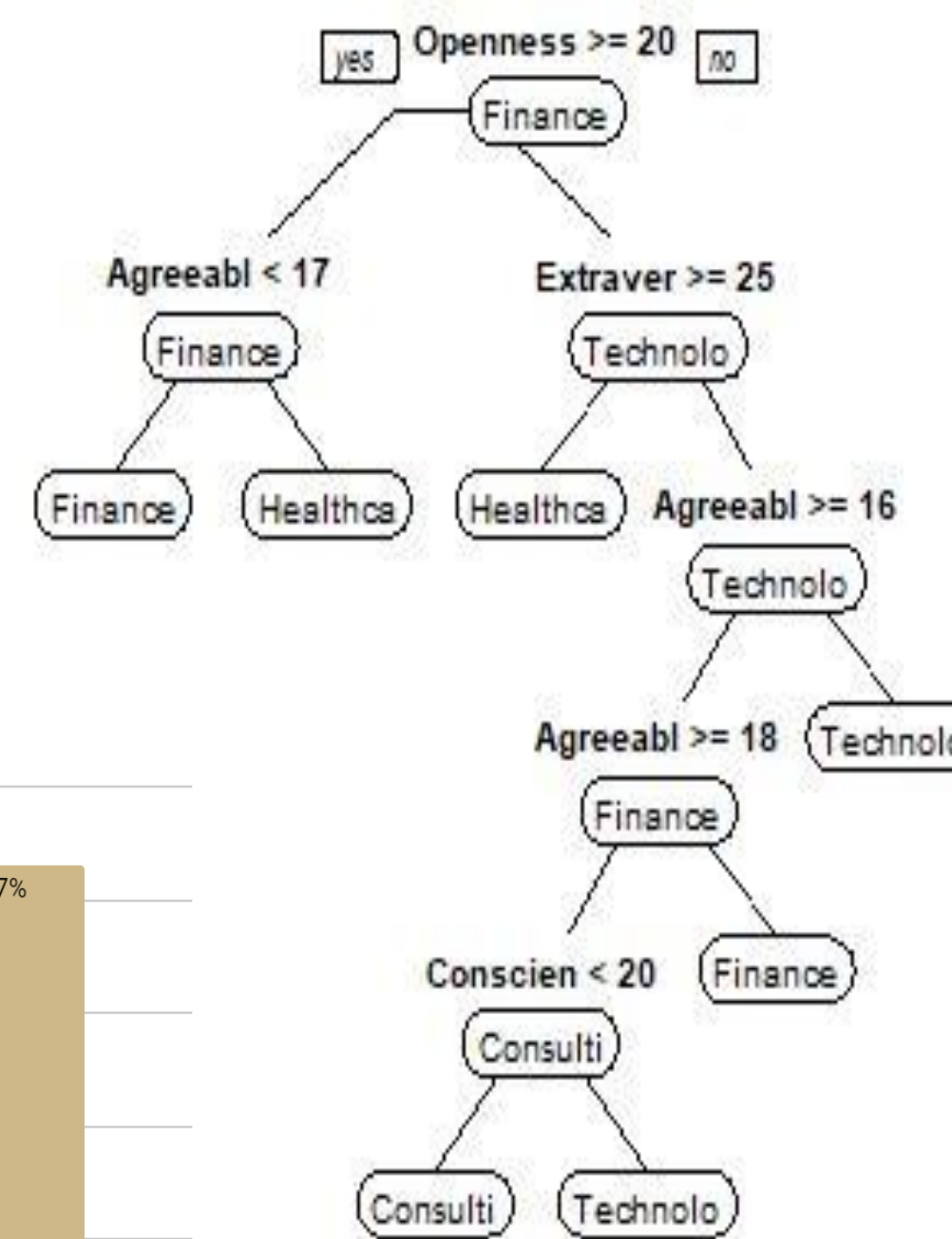
Legend: ● Yes, ▲ As Factor, ◆ No

METHODOLOGY



STATISTICAL RESULTS

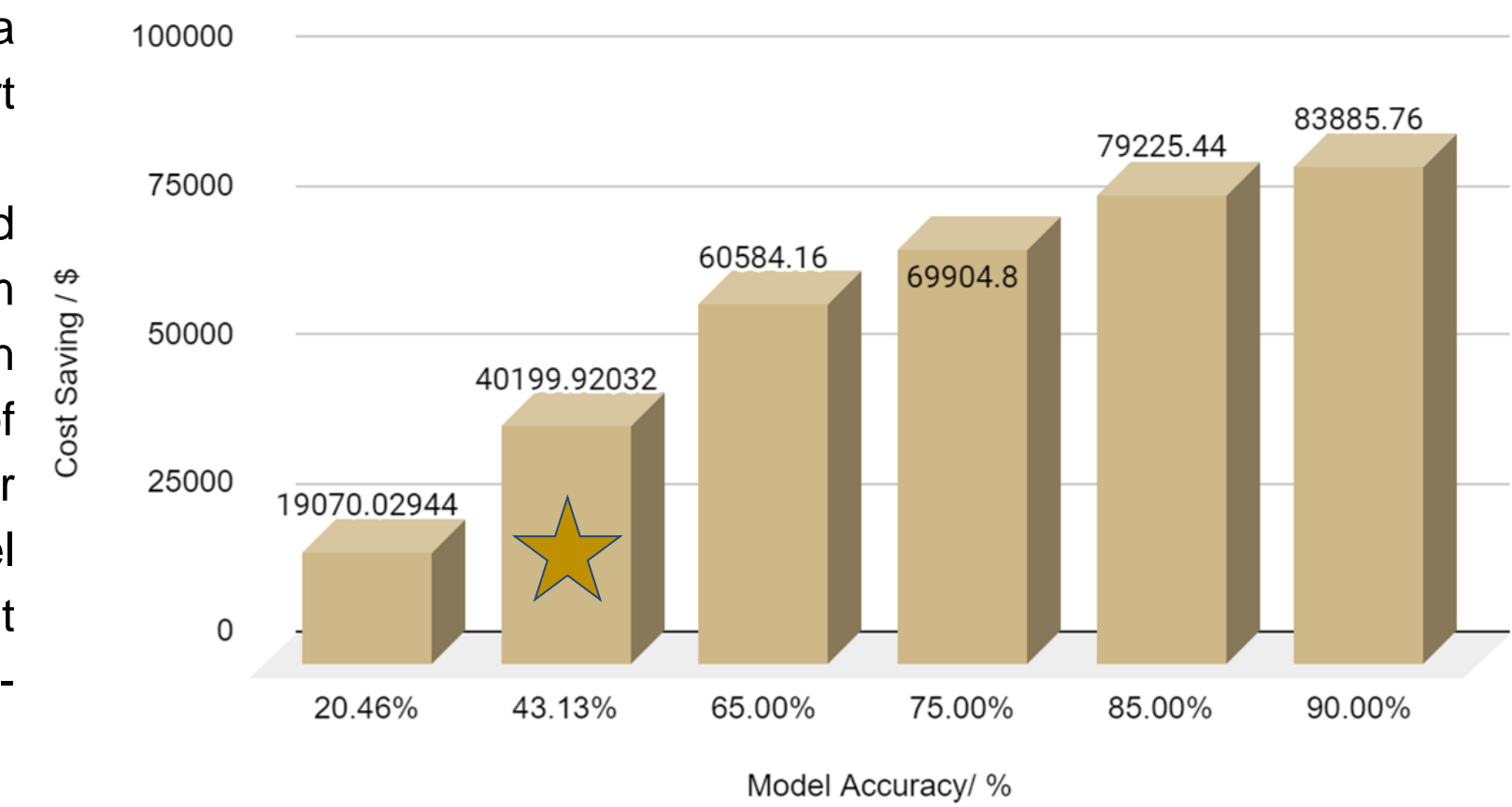
The decision tree depicts where a candidate will be placed after completing the 5 personalities traits survey. Each of the 5 personalities matter for the calculation of what job industry they best belong in. As you can see from our descriptive statistic measures our model was not very accurate. Scores ranked by importance are: Neuroticism, Openness, Agreeableness, Extraversion, Conscientiousness. We chose the decision tree model as our final model for its accuracy that is higher than other models



INSIGHTS

The goal is to provide a tool for the Krannert Professional Development Center and the master's program that can suggest a path to students of professions that fits their personality. This model could provide the student with supportive data-driven career guidance.

Cost Saving vs. Model Accuracy



From our research, the average time a student spends on finding the right profession is 14.6hr, with the hourly opportunity cost of \$42/hour. Incorporating these worst-case estimates in a cost matrix, we estimate that we could save all students combined a total amount of \$40,200. This number will grow as there become more graduates. Closely matching students to a profession that matches their personality score would rather give the student a better area to focus where he or she could search for a job after graduation.

CONCLUSION

After examining our data, we have come to the following conclusions regarding our proposed research questions:

- What personality features are drivers of future jobs?
 - All "Big 5" personality traits are drivers for future jobs. As mentioned, these 5 personality traits are: extroversion, agreeableness, conscientiousness, neuroticism, and openness to experience
- What career field is best for a student given certain personality traits?
 - Through our research, a student will be able to take this survey to evaluate where they fall in terms of the 5 personality traits and use the decision tree to view which career field might be a suitable option for them based on their tendencies.

We created model using RStudio and can predict the career a student would land after graduation using results from previous graduated alumni. The scores will be the input for the model and the model will guide the student into the profession that has the highest likelihood. Our final model has an accuracy of 47.13% to place the student into the correct profession. We believe incorporating others features about the student could improve this performance.

This research could be continued with gathering data from other universities with similar master's programs. Using the same survey to gather data from those universities alumni would give more accuracy and education about the industry as a whole. Of course, each program has its slight differences, but each individual university would be able to use their own data as we have done here with Purdue students. Both overall results and program specific results would be useful to incoming students.

ACKNOWLEDGEMENTS

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