Figuring Out Which Patients to Outreach Back To

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INTRODUCTION

/ [uStephen Soboslayand I am working on the BusinessIntelligenceteam for ClevelandClinicworking as a Data ScientistIntern. Thiswas a remote internship that haslasted from last May and is still ongoing. I got the internship from an email sent out to math majors at ClevelandStateUniversity.

if outreached They may be outreachedvia a phonecall or their MyChart

‡ Another objective of this project was to learn Pythonas I had no prior experiencewith it.

MCP as their insurance) Other variablesincluded in the dataset were race, patients residenceof county, insurance company and what department the order came from.

‡ So we decided to switch to a subjective scoring method usingthree variables the age of the order, the patients appointment completion rate, and the departmentin which the order camefrom.

Figure 1.Python output of a sample output of all the scores.

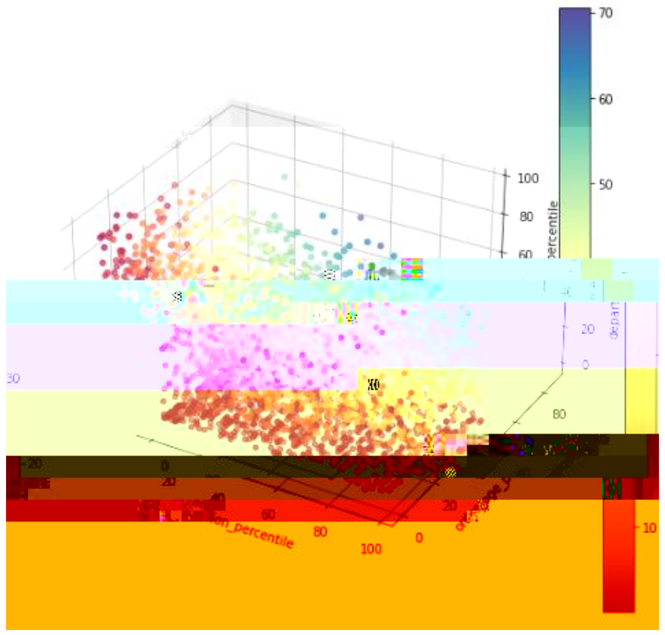

Figure 2.Python graph of the harmonic mean scores

RESULTS

‡ Age of Order: If the patient scheduleda follow-up appointment: follow-up date minus order date. If the patient did not schedulea follow-up: Date the data was collectedminus order date. Fromthere we converted the dates into percentiles where if the age of the order was small, you were in a higher percentile, and if the order age was high, you were in a lower percentile

‡ Appointment Completion Rate: Converted the percentages into percentile, higher percentage completed equals higher percentile. For patients who Z v [šad appointments before or had low completion percentages,

three different scores, to give the patient one final score,we take the harmonic mean of the three scores

RESULTS(Continued)

‡ Harmonic Mean divides the number of scores by the reciprocal of each number of scores

‡ Ex We have the numbers 4,7 and 9, then 3/((1/4)+(1/7)+(1/9))=5.953

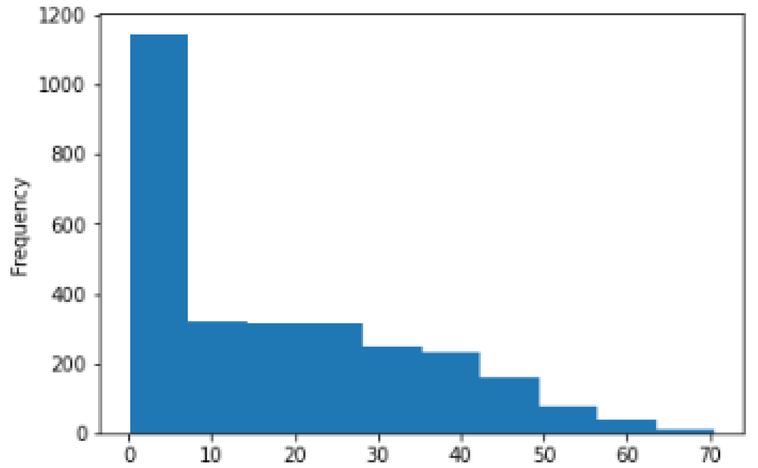

Figure3. Histogram of Harmonic Mean Scores

FUTURE WORK and CONCLUSIONS

‡ If the

Acknowledgments

I would like to thank everyone on the Business Intelligence team but especially Matt Steele, my mentor for this project and fellow intern Caitlin Gibson.