Project 4 Final Deliverable

1. Project title

College Admissions Calculator

Github Repository

2. Team members and roles

Nnamdi Ede, Project Manager, nnamdi.ede2019@gmail.com

Ryan Essem, Tester, nolimitry1@gmail.com

Jim Chen, Analyst, jchen160@umd.edu

Amanda Hernandez, Researcher, avhernan@terpmail.umd.edu

3. Summary of accomplishments

Describe briefly (1-2 paragraphs) what you have accomplished in this project – the tangible results of your work.

Though our original idea seemed very difficult at first, we were able to deconstruct our original plan and make it more feasible and realistic. While our program does not account for the inherent human biases throughout the college admissions process, it does account for the numerical side of admissions which revolves mainly around a student's GPA and SAT scores. Our goal for this project was to allow the user to get an idea of what their chances of admission to the University of Maryland would be and in our opinion, we not only accomplished this goal but also expanded it. Instead of only determining if a user has a high or low chance of acceptance/rejection, we also added the possibility of being waitlisted and deferred — which adds a more realistic element for the user. And at the end, a user is also able to see both a scatter plot and histogram that compares the GPAs, SAT scores, and number of activities between admitted, rejected, waitlisted, and deferred students.

4. Summary of learning

Describe briefly (1-2 paragraphs) you have learned as individuals and as a team – for example, challenges, interesting findings, new approaches to programming that you have learned.

From the start to the end of this project, we faced a lot of trial and error. But ultimately, through teamwork and collaboration, we were able to complete the project in its entirety and in a timely manner which allowed us to add more components to our final project. We all learned a lot about the most efficient ways to divide code amongst ourselves and how to bring it all together at the end. In addition to learning more about collaboration, we also learned how to customize scatter plots and histograms. We found out how important boolean statements are in controlling programming structures such as "if" statements, the "and" operator and logic based values (True, False). Without the knowledge of boolean statements, we don't think we could've been able to create a well-functioning code. We also learned more of how we can change the code throughout this project, with a good example being the GUI layer which many of us were very confused about and didn't understand, and also how to color code the scatter plot with 4 separate

variables, but throughout all of that we were able to face it during the process and come out with success and a bit more knowledge of coding through pandas or using GUI because of it.

5. Next steps

What would you do next for your project (bullet list or 1 paragraph) if you had more time?

- Introduce other variables like how "good" a personal essay was on a scale of 1-10, ACT scores, AP credit
- Create admissions functions for other universities (similar to our original idea)
    - Add a ranking system for these universities.
    - Create a GUI layer ranking systems for universities that they could be accepted/ rejected from (ranking system)

6. Individual contributions

*Describe each team member's **specific** contributions. Indicate what code they contributed. Be sure that there are comments in the code that clearly label each person's contributions. Use a bullet list.*

Nnamdi Ede

- Wrote code to find rejected students
- Created smaller text file for rejected students (test run file)
- Formed larger text file that included students who would get accepted, rejected, waitlisted, and deferred (final text file)
- Recorded extra credit video
- Did part of the code for the scatterplot for comparisons of UMD students (Nnamdi and Amanda did this)
- Helped revise functions in the code for the final revisions of the project

Jim Chen

- Wrote code to find deferred students
- Found national data to use in text file (GPA, SAT)
- GUI extra credit
- Wrote part of the code to create a histogram between deferred and waitlisted students activities amount (Ryan and Jim did this)
- GUI extra credit video

Ryan Essem

- Wrote code to find waitlisted students
- Experimented with scatter plot functions/trying to color code the points
- Attempted to experiment using randomForest generator in order to make the program predict a students chances of admission by percentage (%)
- Wrote part of the code to create a histogram between deferred and waitlisted students activities amount (Ryan and Jim did this)
- Proofread code for spelling errors

Amanda Hernandez

- Wrote code to find accepted students

- Wrote code to admit, reject, waitlist, or defer user/student using program
- Wrote all updates (#1, #2, final), added updated flowcharts and readme to repository prior to deadlines
- Found initial college data (GPA, SAT averages among students admitted into the University of Maryland)
- Created smaller text files for accepted, waitlisted, and deferred students (test run files)
- Did part of the code for the scatterplot for comparisons of UMD students (Nnamdi and Amanda did this)

7. Include <u>everything</u> **for your project in the ZIP file (including previous updates/code-snapshots, where available). Make sure you follow the rubric in the Team Project information doc.**