Together We Rise 4 Wellness

Computer Science Internship Summary Paper

Completed at We Rise 4 Wellness

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By

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**INTRODUCTION**

## We Rise 4 Wellness, Incorporated: Bringing Awareness and Change

We Rise 4 Wellness was incorporated on April 27, 2021, under Chief Executive Officer and President, Lacher Edwards, and Directors Akerah Carter and Onjelic Curry under the Health and Allied Services, N.E.C. industry in Arcadia, Florida, U.S.A. We Rise is a nonprofit with the self-attested goal of raising awareness and funds for the minority and disenfranchised communities through the following specialties: wellness, community and youth programs, elder programs, women’s health, educational resources, nutrition, public health awareness, and data analysis. To maintain an actively running non-profit, We Rise implements interns into its various fields to both train and introduce students/graduates/or general volunteers to real-world company data and experience as well as to garner high-value content for its organization.

We Rise implements several social media platforms such as Twitter, Instagram, Facebook, and LinkedIn to help spread word of its materials, mission, and the company itself. We Rise also utilizes the website platform where it uses web and software development interns to create a user-centered website providing information on programs, involvement opportunities, featured blogs written by the skilled content writing intern team, as well as a shop where profits made are put back into programs and methods to help the company meet its mission statement.

With a mission statement of bringing wellness to disenfranchised communities and populations, We Rise carries out activities and promotions geared towards public awareness, mental and emotional well-being through human connection, and fund raising through events and company products. Some activities focused on include: nutrition clinics, where We Rise strives to facilitate forward progress in providing affordable and accessible clinics for everyone; workshops promoting health and well-being through resources, networking, and connection-building; life coaching, which provides those in need access to professional help from real life coaches; food donation drop-off, allowing a place for people to donate food and resources that can be used by those individuals and communities in the greatest need; community programs and activities allowing a place for people to meet, share their experiences, and help raise money to further the company’s mission.

## We Rise 4 Wellness Internship Objectives

Being a non-profit organization, We Rise 4 Wellness provides several internship opportunities within various different fields. Internships include public health, website development, editorial, data analysis, administration, grant writing, content writing, editorial, and human resources. I have taken on the role of the data analyst intern with the intent of delving a bit into the software development and content writing fields as well. The goal of the data analyst intern is to collect data on some source of information, such as clinical health trials, particularly interesting or relatable research, and using this data to create insightful analyses that can be put together in a final dashboard or report. This report can then be implemented by the content writing team into an interesting blog/article or released directly to the public to increase public interest and awareness.

Tasks of the data analyst intern can include:

* Project Planning
  + Determine what data the stakeholder/project lead wants
  + Determine what questions are being asked/what information is desired
  + Find and explore possible resources
  + Determine how to gather the required data
  + Preview the data and determine best approach for acquiring and analyzing data
  + Determine and communicate a good timeline for completion of each step
* Data gathering/wrangling
  + Web Scraping
  + Company Communication
  + API Access
  + File Downloading
* Data Cleaning
  + Usable categorical and Numeric features
  + Removal of features not pertaining to areas of interest
  + Feature engineering: are there hidden details that can be found?
  + Intuitive naming conventions
* Data Analysis
  + Running the data through an analysis program: excel, powerBI, Tableau, Python programming, etc.
  + Determining insightful and usable graphs and plots
  + Creating a dashboard and series of visualizations that tell a story about the data
* Final Report
  + Using the dashboard or visualizations, create a final report shedding light on any useful insights or stories found in the data
  + Answer questions put forth by stakeholders, project leaders, etc.
  + Allow room for future analysis
  + Meeting with supervisor/project lead to ensure final report and findings are acceptable
* Content Writing
  + If applicable, use final report to create a blog or article that can be used to raise public interest and awareness on the topic the data covers
  + Use of data to help the forward momentum of research within a particular area

**Structure and Function of We Rise 4 Wellness**

1. **Company Management**

President & CEO

LaCher Edwards founded We Rise 4 Wellness, Inc in March of 2021 in Arcadia, Florida with the goal of spreading education and awareness as well as providing a medium for networking and self-expression of disenfranchised and diverse communities and social groups. LaCher earned her Bachelor’s Degree in Allied Health Management from Florida Technical College, a Graduate Certificate in Public Health from Capella University, and her Master’s Degree in Public Health from Liberty University. She currently works as President and CEO of We Rise 4 Wellness and Program Director at Clinical Staffing Solutions.

Executive Assistant

Yvonne S.

Director of Operations

Jordan Parker

1. **Volunteers and Interns**

The bread and butter of We Rise 4 Wellness, this is a company that survives off of volunteer work and utilization of interns to see its pieces fall into place. Covering both leadership roles as well as part time, minor volunteer roles everybody has a major role to play in the betterment of the company and its target audience.

Application/Website Development Intern

Team members in this position use their prowess in application development and website design to manage, update, and design the company’s application (currently in production) as well as their up and running website. These interns also practice their skills in testing by ensuring all software related to the company is working and running correctly.

Board Members

These experienced and gifted individuals work on the Board of Directors. Their job is to use judgement, business savvy, financial and legal knowledge, and ethical thought to plan and move the company toward a better future while maintaining its overarching mission. Individuals in this position serve for a minimum of 1 year and a maximum of 3 years on the board.

Business Development Manager/Project Management/Business Management Intern

These individuals plan and develop the company, including tasks like branding, customer relations, product goals, and company service. These individuals conduct research, plan and help implement business ideas and goals, undergo and oversee business projects, and provide solutions to business and company problems.

Copywriting Intern

Copywriting interns work to create written content that is interesting and engagement to the company’s target readers. They must be skilled writers able to communicate both written and verbally. Regular tasks include brochure development, written reports, and marketing materials. Other contributions include drafting and editing of blogs, articles, and other website content.

Data Analyst Intern

The Data Analyst team focuses on collecting relevant data and information, cleaning the data for easy access and use, and implement various methods to analyze the data in a meaningful and story-driven way. They must use the data to find trends and answer important questions through easy-to-understand charts, graphs, and models that can be utilized in reports, blog posts, articles, and other written or media content.

E-Commerce Intern

This team works on helping and ensuring the website team is updating site content regularly to include new graphics, photos, etc. to keep the site interesting and engaging. They plan and execute photo use, marketing, and social media content. They also research competitors for branding and product ideas as well as oversee analytical data regarding customer demographics.

Editorial Intern

Similar to the Copywriting Intern, the Editorial Intern is focused on content writing including sourcing photos and creating company posts used on social media sites. This team works closely with the E-Commerce team to plan and implement company promotion and internet presence. Tasks include research, writing, editing, and outlining content and ideas for articles, blogs, and posts. This team is also receptive to post feedback and statistics for already-created content.

English Major/Journalist Intern

This team focuses on the journalist aspect of content creation, including conducting interviews, gathering information on topics and news that is interesting, engaging, and relevant, and providing this information to the E-Commerce and Editorial team for content creation, or even creating their own content in the form of new articles or blog posts.

Event Planner Intern

Event planning includes all tasks that fall within the duties of event planning. This includes gathering guest/customer insight, interests, and requests, geographically planning the best locations for events to occur for maximum participation, researching and communicating with venues that can hold these events, obtaining required tools, experts, and equipment needed for events, coordinating hotels, transportation, and food, and managing and budgeting finances.

Executive Administrative Assistant Intern

This/these interns help lead company administration and day-to-day activities within the company. This includes content development, fundraising, and supporting growth of the company.

Grant Writing Intern

This team is focused on grants and grant writing. This includes written content focused on persuasive proposals to gather interest and fundraising for various ideas, opportunities, and aspects of the company. This goes beyond written content, as the team must also maintain a connection and relationship with key stakeholders.

Human Resources Intern

The HR team runs the ins and outs of human resources, including volunteer, intern, and employee relations, programs, and policies, as well as administrative duties. Regular tasks include promoting and hiring of new team members/interns/etc., implementing new hire orientations, scanning, logging, and filing duties/clocked hours, etc. of all team members/interns, working closely with the recruitment team to find fresh faces to join the company, and help implement and schedule interviews, background checks, etc.

Media Production

The media production team focuses on producing and editing entertaining, interesting, and relevant video content used by the company on its website as well as social media platforms for educational purposes, recruitment purposes, informational purposes, etc.

Social Media Marketing Intern

The social media team utilizes all popular social media platforms and works closely with various writing teams and interns to create and post content that is engaging and informative in a quick and easily digestible way. This team researches current pop culture, writes, proofreads, and edits media content, runs media campaigns, and performs public relation and communication plans.

**Description of Experiences and Activities**

1. **Communication and Organization**

We Rise 4 Wellness is an organization built on utilizing interns for most of its business aspects including content, design, event planning and hosting, fundraising, amongst others. The company is organized into teams based on their specialized skills, including Administrative, HR, Writing, Media, Event Planning, Application and Website Development, Data Analyst, etc. Each of these teams consist of several interns based on the interest and applications they receive. This team of interns is led and supervised by an experienced intern whether in their field of work or a seasoned vet within the company.

Methods of communication, workflow, and clocked work time are spread out between three different applications. For much of the communication all members of the organization have access to the company’s Slack Workspace. This workspace is then organized into communication channels consistent with the teams, topics, etc. including General for general chat and organization-wide information, ideas where team members post the various ideas they have for the company, and individual threads for each specific team; I have access to the two former channels as well as the data-team channel. Communication is also done via direct messages between individuals that want more private conversations.

On the general slack channel there is usually a weekly Zoom meeting link for team meetings. These video conferences involve mostly the team leaders and supervisors as well as the CEO and company administrators videoing in to discuss tasks, project progress, company updates, comments or concerns, and brief updates on how each team is doing. Team members can join in on this zoom call or they can watch the recording that is posted in the General channel some time after the meeting has ended.

1. **Workflow and Hour Tracking**

Workflow, projects, and tasks are communicated, documented, and reported through Asana. Within Asana, every member of the organization is part of the We Rise 4 Wellness Team and has access to the company’s general overview, messages, and calendar. The organization team is then separated into “Projects” based on their team specialization. Available “Projects” or teams include:

* Communications/Admin Team
* Data Team, Public Health Scientist
* Editorial & Media Team
* Writers & Content Team
* IT – APP – Team
* Business Development/Management
* Digital Fundraising Campaign/Grants

Within each “Project” or team, members have access to the project’s overview, task list, workflow board, task timeline, calendar, summary dashboard, Project-specific messages, and Project-specific files. For team interns such as myself most of the time is spent within the workflow board. This board is organized into sections based on the “Project” or team: for the Data Team there includes a section for Data Analysis Requests, for Statistics/ National/ Florida/ DeSoto County, for Graphs, and for Completed Tasks. Each individual task is organized into their respective “Projects” or teams and includes descriptions, subtasks, and posts or updates directly relating to the task. Most tasks are general, overarching projects that have a number of subtasks to which team members and interns are assigned to. These subtasks generally involve a list of the assignees, the due date, a description, further subtasks, shared files, and posts or updates directly relating to the subtask.

We Rise 4 Wellness does track hours and in fact requires a certain number of hours to remain an intern for the company. The organization requires at least ten hours per week of clocked internship work, with no more than 7 days of inactivity before the team member/intern is removed from the company. Hours are tracked using Jibble 2 which tracks weekly hours that runs from Monday to Sunday. Through Jibble interns can Clock in for the data (typing in the tasks/activities they are working on in the notes section), switch tasks, take a break, and clock out for the date (here again recording the tasks/activities that they worked on in the notes section).

1. **Personal Roles and Responsibilities**

I work within the Data Analyst and IT – APP – Development team under the supervision of Na Fatimata Sogodo, the Data Analyst team lead, and LaCher Edwards, the company’s President and CEO. Within the Data Analyst team my duties generally include database research, data collection and wrangling, data cleaning and organization, table and dataframe development through BI Analytics, Excel, or Python (I tend to focus mostly on Python for data management), data analytics through the above-mentioned tools, and documentation and report-building of my findings.

A typical project workflow for me starts with researching databases for data relating to the project at hand. For instance, I am currently involved in a project focused on exploring datasets within health-related clinical trials. I spend a few days exploring the trials and datasets within research databases such as [Office of Biomedical Translational Research Informatics](https://btris.nih.gov/), [Clinical Study Data Request](https://www.clinicalstudydatarequest.com/), [National Institute of Mental Health](https://www.nimh.nih.gov/funding/clinical-research/datasets/nimh-procedures-for-requesting-data-sets), the [YODA Project](https://yoda.yale.edu/), and [EU Clinical Trials Register](https://www.clinicaltrialsregister.eu/ctr-search/search). Once an interesting or relatable dataset is found I begin the process of collecting the data into a local database, usually an excel spreadsheet. Data is collected through web scraping or manual data input. The data is then cleaned and organized within the excel spreadsheet itself with the idea of clean and easy analysis in mind. Cleaning can involve anything from ensuring column names are appropriate, easy to understand, and easy to access within an analysis framework, to ensuring all numeric data is input as numeric and non-numeric is in easy to read, understand, and analyze formats.

After the data has been cleaned and prepared for analysis I create a jupyter notebook in which I import Python libraries such as Pandas, Numpy, Scipy, Matplotlib, and Seaborn for analysis and visualization purposes. I begin my initial explorations of the data using some basic pandas and numpy, first importing the data into a dataframe then checking how much data there is, the statistical summary of the data, some random samples of the data, and finally a pairplot which graphs every feature in the dataframe against every other feature: this gives me a quick visualization of the data I’m looking at and a starting point for determining what features might be correlated; from here I’m able to determine which aspects of the data I want to take a closer look at.

My next phase involves more in-depth visualizations. Using the baseline graphs I created earlier with the pairplots I will begin comparing different features together using larger and more advance/detailed graphing means such as bar plots comparing categorical non-numeric with numeric data, data distribution plots to view how the data is distributed and what outliers I may have to deal with, boxplots for a more overhead view of data distribution, etc. From there I will perform some statistical analysis to determine the spread of the data, correlations between features, regression calculations and plots, etc. Finally I am able to put my findings into a report, usually starting with a rough draft that includes basic plots, quick summaries of the data I collected and what my findings were, and potential for future research. For more advanced and final copies of the report I will use more visually pleasing graphs from either seaborn or plotly as well as a well-organized and professional framework for the rest of the report. The final report will either be powerpoint or an article describing my findings.

1. **Projects I have worked on**

For my first project I worked on finding and analyzing data for a Clinical Trial within a Health database regarding Diabetes. The data I found was based in the EU Clinical Trial Database. This study specifically involved the effects of a drug, Liraglutide, on diabetic patients who had a higher likelihood of cardiac events including heart attacks. I collected the data through manually inputting information into an excel spreadsheet from the trial’s results page; the data was easy enough to work with manually that it would have been a waste of time creating a web scraper to collect it. After inputting the data I created a jupyter notebook and worked with the data, as mentioned above, and put together my findings into a final report, a Power Point I shared in the Asana Projects and tasks page.

The second project I worked on was finding and analyzing data for a Clinical Trial regarding infertility. Methods of collection, cleaning, and analysis were pretty much the same as the previous project, with the final report in the form of another powerpoint.

**Perceptions and Judgements About the Internship**

1. **Internship Objectives**

My objectives of the internship consist of supervisor-made and self-made proclamations I strive to achieve daily, weekly, monthly, and entirety of the internship. These objectives range from simple to complex and involve self-growth, growth with the company, and contribution. The following includes that list of objectives:

1. Use data analytical skills to contribute to the company in a meaningful way
2. Perform given tasks in a timely manner
3. Communicate completion of tasks with supervisor through useful reports
4. Record work hours through a clock-in and clock-out system
5. Clock a minimum of 10 hours worked per week
6. Obtain a level of personal growth throughout the course of the internship
7. Learn or build upon a skillset

Use data analytical skills to contribute to the company in a meaningful way

Throughout the internship it has been my duty to search data centers to find data meaningful to some topic of interest, from diabetic studies to infertility studies and beyond. Using this data and my analytical skills I found meaning behind the data reported these findings in a way that was educational to both the company and the company’s audience. In this way I have been successful in completing the first objective.

Perform given tasks in a timely manner

From the beginning of the internship, I was told that due dates and task completions were fairly lenient, and while some tasks required around a two-week task period most assignments were a work-at-your-own-pace and turn-in-whenever-you’re-done period. This more lackadaisical approach to task completions made it too easy for me to put off my final reports for a period. Up to this point in time, 7 weeks in, I feel I have not sufficiently or consistently met this objective. I will add to this closer to the end of my internship and hope that I have a different, more successful answer.

Communicate completion of tasks with supervisor through useful reports

After the data has been gathered and the analysis has been performed it is my duty to put all my findings into a final report. This has usually consisted of data summaries, such as where the data was obtained, when the data was collected or created, the demographics behind the study I was collecting data for, descriptive analysis through graphs and plots to visualize my major findings, and written descriptions of my findings along with possible follow-ups regarding the data or the study itself. This report was turned in on Asana, the company’s workboard, where my work could be seen by the supervisor and all other members of my team.

Record work hours through a clock-in and clock-out system

We Rise 4 Wellness used Jibble, a third-party application to log all hours of activity and work. I struggled to figure out how to get the application to work at first, and thus missed my first couple of weeks logging my hours. After I finally got it figured out, however, I was able to consistently log all hours worked.

Clock a minimum of 10 hours worked per week

To go along with the above, I can’t say that I was consistent with getting a minimum of 10 hours per week done at first. Having been in a situation where I was working 40-45 hours per week, taking 21 credit hours at school, plus trying to maintain 10 hours per week in an internship, it was at times exceptionally difficult and trying to get to those 10 hours. With the first block of school completed, however, I have dropped from having 5 classes per week to contend with to only having 3 classes per week, so with those extra hours I am hoping to find more consistency in my weekly hours. I will come back to this close to the end of the semester with an update.

Obtain a level of personal growth throughout the course of the internship

Up to this point in my internship journey I can honestly say that I have been able to learn a few very important things that contribute both to my personal and educational growth. The first is time management and organization. Working with a real company in my area of interest for the first time has given me a sense of what I can expect moving forward in my field. Two of the most important things that will involve are planning and utilizing my time wisely as well as organizing anything and everything to the best of my ability such that when I approach it again in the future, I am able to find what I need quickly and efficiently. The second thing I learned is that data is tricky and doesn’t always come to the data analyst in a clean and easy-to-use way. I have found that most of my time and struggle has come from finding the right data, collecting that data, and cleaning it up in a way that can be used in the analysis stage. Having this knowledge prior to getting into an actual job in my field I think will be immensely important as it will be easier to anticipate and plan for.

Learn or build upon a skillset

One of my major goals when starting this internship was to learn or build upon a skillset. Up to this point I have been very successful in this, but not in the way that I had originally imagined, and that is the best outcome I could have asked for. While I certainly have strengthened my core data analysis skillset, I think it is more my data collection and cleaning skillsets that have benefited the most throughout my journey. As mentioned above, I have had to learn through trial and error the difficulties of those skillsets and hone them in a way that allows me to check off those tasks in a more efficient manner. This objective, while already complete in its entirety, is something I will come back to as I near the end of the internship for a conclusion.

1. **Personal Expectations**

Amongst my personal expectations of this internship included personal growth, educational growth, opportunity to work with and learn from individuals within my field of interest and learning and solidifying skillsets that I can carry with me into my future career.

Personal growth has occurred frequently throughout the internship through increasing determination and mental fortitude, an increased understanding of time management and organizational skills, as well as just an overall look at what I can personally handle and accomplish through desire, determination, and willpower. Likewise, my educational growth has been achieved through various avenues, from learning concepts and ideas within the data analytics field itself, especially regarding data collection and cleaning, to interesting concepts within the medical field through my browsing of clinical trials to find and analyze data and use that data to tell a story.

I feel my opportunity to work with individuals from my field of interest has not been met as fully as I would have liked. The opportunities have been extremely vacant in regard to working closely not only with team members but supervisors as well. The internship has largely consisted of receiving a task, doing my own work to complete the task, giving a final report, and moving on to the next task. While I’m sure there would have been people willing to work with me if I had approached and asked, most of the workload wasn’t built around utilizing group work for efficiency. As to learning and solidifying skillsets, I mentioned earlier on some very important examples of this growth, including a strengthening of my core analytical skills as well as a major increase in data wrangling and cleaning.

1. **Organization Open to Ideas**

The organization was very open to my ideas! Early on I followed tasks given to me without question, as I wanted to get in the grove of the process and what was expected of me overall. About four weeks into the internship, I felt comfortable enough to give my own input. I had a personal interest in studies regarding infertility. I was given the task of choosing amongst a selected few medical maladies to research, collect data on, and create a report for. I approached my supervisor about wanting to include infertility in my research instead of any of the listed maladies. My supervisor was receptive of my opinion and allowed me to use this topic in my research.

1. **Career Interests in Computer Science**

Computer Science is a recently discovered passion of mine, found within the last five years of my 34-year life. My only regret is that I did not discover it earlier. Never have I been met with a mixture of complete struggle and hair-pulling problem-solving and serotonin-inducing instant gratification as I do with this field. The struggle is real, but so is the pleasure. Through problem-solving and creativity, I can meet every need I could ask for and still crave more. Unlike every other interest in my past, this interest has grown exponentially even through struggle and failure. I want a career in computer science, possibly more than I’ve ever wanted anything in my life.

To be more specific, I would love a career in data science. While computer science has become my passion as of late, data science has become my raison d’etre. I’ve combined my previous interest in human biology and neuroscience with an insatiable passion for technology and artificial intelligence and found a desire to enter the neurotechnology field, the first step of which involves solidifying data science and artificial intelligence skillsets. I imagine a future where I am solving technological problems that directly impact some artificial intelligence implemented somewhere within the nervous system to solve a major problem, record data, or increase human capabilities.

In short, the answer to the question, “Would you like a career in your program major?”, is astronomically and resoundingly yes.

1. **We Rise 4 Wellness Recommended**

This organization, while small, relatively young, and organized as such, has a powerful mission statement coupled with owners, leaders, and team members that follow and believe this mission statement to its fullest, and for that alone I would recommend this organization to any intern, regardless of their field of study. This organization aims to help people, especially those that need recognition the most, to the best of their ability. They work towards bettering the lives and wellbeing of individuals and societies alike in ways that are cost-efficient and meaningful. They are open to their team and welcoming in every aspect they can be.

1. **How could this experience have been improved?**

While the experience, overall, has been very highly positive and has helped improve many aspects of myself personally and skillfully, there are two aspects I feel the experience could have gone better. First is their approach to task completion and pushing interns to perform in a timely manner. While I realize that it gives the individual a chance to self-regulate and perform tasks to their own pace and motivation level, this is not a method that matches real-world working environments and does not help ready interns for a career within their field of interest. The same can be said for their approach to group work and team building. Most of the tasks given involve completing and reporting tasks individually and moving on to the next with little to no opportunity for involvement of teamwork. Again, this largely doesn’t meet real-world working environment and doesn’t prepare interns for futures within their career interests. Improving upon these two aspects could help further develop interns for their career and beyond.

1. **Greatest Accomplishment as an Intern**

My greatest accomplishment, up to this point, as an intern for We Rise 4 Wellness has been finding that I can complete the tasks given to me, and in a manner consisting of great work performance and contribution. As is the case with many people, impostor syndrome tends to run rampant in my mind, making it easy to question whether I can succeed in data science or computer science in general. Knowing that my contributions can be meaningful and professional significantly helps strengthen my confidence in my ability to perform in career environments. Nothing could possibly feel like more of an accomplishment than this.

**Work Performance**

1. **Prior Skills Used**

Technical Skills

* Basic understandings of computer architecture
* Experience in a number of programming languages, including:
  + Python
  + C++
  + Java
  + Javascript
  + R
* Experience in database management systems, including:
  + SQL
  + NoSQL
  + MySQL
* Experience in Python data analysis libraries, including:
  + Pandas
  + Numpy
  + Matplotlib
  + Plotly
  + Seaborn
* Experience in data analysis applications, including:
  + Tableau
  + Excel
* Data cleaning
* Feature engineering

Non-Technical Skills

* Team programming
* Multi-field Collaboration
* Project Organization
* Time Management
* Technical Writing
* Presentation Development

1. **New Skills Learned and Strengthened**

Technical Skills

* Data Collection and Wrangling
* Research
* Data management
* Python Programming Language
* Python data analysis libraries, including:
  + Pandas
  + Numpy
  + Matplotlib
  + Seaborn
* Data analysis applications, including:
  + Power BI
  + Excel
* Data cleaning
* Feature engineering

Non-Technical Skills

* Project Organization
* Time Management
* Technical Writing
* Presentation Development
* Company-wide Collaboration

1. **Performance Satisfaction**

Projects and assignments consisted of researching databases, mainly clinical trials, to find usable data for analysis, wrangling the data and supplemental information, cleaning the data to make it usable for analysis, feature engineering, analyzing the data for useful stories and information, and presenting the stories and information in a final report. I will give brief overviews of my performance and growth in each of these tasks, then I will rate each of these tasks on a scale from not at all satisfied to very satisfied based on two factors: overall performance and growth.

My performance in researching databases was rough at first, as I had little experience in going out and finding my own useful data within the realms of real-world research trials. After the first two assignments, this process became easier and quicker to perform. I found myself finishing assignments slightly more quickly as this skill grew.

My performance in wrangling data was poor when this internship first started, largely because I had little experience in wrangling my own, unorganized data. After the first two assignments this process became easier and quicker to perform, though still shows much improvement needed. I found myself finishing assignments much more quickly as this skill grew.

My performance in cleaning data for use in analysis was relatively high when I began this internship, as it was a major focus for me for several years in terms of data analysis. I spent much of my time cleaning the data as I wrangled it, requiring little need for cleaning after the data had already been collected. This skill solidified with further use, but new skills in this area were hard to come by. There was little change in assignment completion as this skill grew.

My performance in feature engineering was somewhere around mediocre when beginning this internship as it was a skill I had developed and worked with a bit in the past but not spent a lot of time with. Like data cleaning, I spent much of my data wrangling time in feature engineering as well, thus requiring little addition on the task after the data had already been collected. Again, this skill solidified with further use, but no new skills were developed throughout the process, and changes in assignment completion were nearly absent.

My performance in analyzing data was exceptionally strong when coming into this internship as it has been a large part of my training over the last three years. This task was the easiest to perform and quickest to complete; this is largely where I made up my time during assignments in which I struggled through other tasks. Here I solidified my skills in overall data analysis techniques and developed new skills in analysis tools and applications, including Power BI and Excel. As this skill grew assignment completion became only slightly easier and quicker.

Finally, my performance in presenting the stories and information gathered throughout the analysis phase was relatively above average when beginning this internship but grew significantly throughout. Areas of development in this area largely consisted of developing eye-catching graphs, visualizations, and slides for implementation in PowerPoint presentations. Assignment completion only marginally became easier and faster as this skill grew.

Self-Rated Performance Scale of main tasks performed and calculated based on incoming performance, growth performance, and overall performance (calculated through incoming performance, growth performance, and contribution to assignment completion).

1. **Deadlines and Use of Time**

Deadlines within this internship were relatively lenient and at times even nonexistent. In fact, the only time I had a true deadline for an assignment was during my first assignment in which I had to find and analyze data from a real-life clinical trial involving diabetes. I was given two separate deadlines, one to turn in the collected and cleaned data from the trial and the second to turn in the final report. Each deadline I met with time to spare. In all subsequent assignments, however, deadlines were never given and assignment completions were never pushed with the exception of one assignment in which I spent a particularly long amount of time on due to an overabundance of other work required of me in other classes and aspects of my life.

My use of time throughout the internship was relatively mediocre. I could have put more work and effort into completing many of my assignments more quickly; that being said, I began this internship during a block in which I was taking 4 other classes and working over 40-45 hours a week. I completed three assignments in the span of that first seven weeks. Now, in the midst of a second block in which I only have two other classes to worry about, I am finding that I am using my time much better and completing assignments much more quickly. I hope to have a much larger number of completed assignments over the course of this second seven-week block. As of week three I have one-and-a-half assignments completed.

1. **Work Quality Self Rating**

The quality of work that I put into projects within this internship have increased as my skills have grown and improved. Even still the quality of work was never below average, as I constantly strive to perform to the best of my abilities whether within a professional realm or personal projects; I find that the best growth and development occurs when the greatest effort is put forth. As such, I would give myself a respectable 7/10 in terms of overall work quality, a score lowered due to use of time and still-developing-skillsets.

1. **Supervision Experience and Networking**

Supervision in We Rise 4 Wellness is relatively lax, with most of my experience involving project and task assignments, infrequent check-ins to see how work is progressing, and helpful critique and praise of finished reports. Otherwise the experience was mainly a work-at-your-own-pace and within your own comfort zone. I for the most part managed myself, my own time, and my own project progress.

Networking with this company was also relatively nonexistent. For the most part, unless we were assigned a project that fell into multiple different fields (which I never was) we had little access to other team members. While this opportunity has never been presented to me professionally, I intend to step out of my comfort zone and begin approaching team members with the hopes of networking with them in my own time.

1. **Outstanding Events**

The biggest event that occurred up to this point in my internship consisted of my supervisor taking my input into account and going so far as to allow me to choose my own assignment about midway through the first block (about five weeks in). My wife and I had been struggling with infertility issues and I found myself very interested in delving into infertility medical trials and exploring the data that was available. I asked if my next assignment could be within infertility and my supervisor happily allowed it. The assignment itself turned out to be somewhat underwhelming, not through my own work but from what datasets I was able to find and collect for the assignment.

**Personal Benefits**

1. **How Have My Goals Changed?**

Throughout the course of my internship, I have been met with several new challenges and responsibilities I never had to deal with prior to the experience. From gaining an understanding of how data analytics works in a real-world environment to dealing with company leads and other interns, I garnered important experience that will help me as I work towards my future goals. Those goals have changed very little throughout my internship; I still wish to see myself in a successful Data Science role working on artificial intelligence models and helping develop new and innovative approaches to meld these models with healthcare. Reaching those goals will be harder than I originally anticipated, however, and thus my short-term goals have evolved as I have gained some experience. I need to continue developing my skills and experience within real-world fields, including further internships, and eventually paid roles. This includes positions that will allow me to interact more with fellow interns and leads and building upon my computer science collaboration skills. I also need to continue developing my overall computer science skillset, which includes learning and practicing machine learning methods, developing projects to include in a portfolio, and learning supplemental information such as statistical skills.

1. **What Impact Did This Experience Have on My Personal Growth?**

This experience has allowed me to develop and grow several skills outside my Computer Science hard skills. Through collaboration I grew and developed my business communication skills as well as my teamwork skills. Through my projects I grew upon my existing research, storytelling, and presentation skills and developed stronger persuasive and analytical skills. These improvements have developed me into a more competent data analyst, more ready to tackle the workings of real-world job environments.

Throughout my time at Wilmington University, I have taken a few data analysis courses. The information I learned in those courses helped exceedingly in my success within this internship. We touched upon researching, gathering, and preparing data for analysis which presented itself in my planning and pre-analysis work in the internship through finding the right clinical trials, gathering the data I needed from those trials, and putting the data together in a way that allowed for me to easily analyze it. We also touched upon the exploratory phase of data analysis in which the data gathered is used in rough graphics and visualizations to determine trends and reveal underlying stories. This presented itself during the exploratory phase of my projects with We Rise 4 Wellness. Finally in my courses I touched upon data storytelling in which the trends and stories discovered during exploration are put together in a meaningful and impactful way. This was presented during the development and completion of my final reports in which I brought together everything I discovered during my project and presented it to the team lead for final evaluation.

1. **What Insights Have I gained From This Internship?**

The biggest insight I’ve gained through the course of this internship is that data is very dirty and can be difficult to come by. The world is filled to the brim with data, and if you know where to look you can find almost anything. The difficulty lies in gathering the data from its source and getting that data into a form that is usable. Where I struggled the most was finding a quick and efficient way to gather the data that I found. This led me to research and experimentation with certain methods of data collection, including web scrapers, APIs, etc. Most of my projects included data small enough that such experimentation and research ended up being more time than it was worth and so I turned to manual collection of the data. For future use, however, I think it is going to be important for me to continue to research different data collection methods and work on personal projects that require me to use those methods so that I am able to utilize better tools and understanding in future projects, especially in real-world scenarios. Not all data I deal with is going to be as small and clean as I was dealing with during this internship, and that is something I must keep in mind and account for as I continue to work towards my career goals.

Another insight I came across is that in real-world environments things aren’t spoon-fed to you. What I mean by this is that if you are given a project to work on you may be given a repository or a place to start looking to plan out your project but from there you need to be able to pull on your own knowledge, skillsets, and research proficiency to find the things that you need. A skillset in computer science and data analysis is very good but only accounts for a very small percentage of what the workload looks like.

Finally, I learned that I shouldn’t be afraid to approach the people I am working for or with if I have any questions, concerns, recommendations, etc. They’re there to help, to guide, to answer my questions, and to work collaboratively with me to find an answer. Often the answer isn’t glaringly obvious or easy to come by and two heads working together are much better than one.