The Imbalance of Academic Work and Job Hunting Process on the Health of Seniors Pursuing Software Engineering

A Research Paper submitted to the Department of Engineering and Society

Presented to the Faculty of the School of Engineering and Applied Science
University of Virginia
Charlottesville, Virginia

In Partial Fulfillment of the Requirements for the Degree Bachelor of Science, School of Engineering and Applied Science

> Peter Shin Spring 2023

On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

Advisor

Joshua Earle, Department of Engineering and Society

Introduction: Two Full-Time Jobs

For most college students in their last year of university, the urgency that they feel regarding the need for job security is definite and much too relatable for everyone that experience it. The job outlook for software developers is projected to grow 26% from 2021 to 2031 which is much faster than the average of all occupations (U.S. Bureau of Labor Statistics, 2023). With this prospective growth in job market as well as a very high average salary for entry-level positions across all occupations, it is a position that is extremely desirable by many students during their last year of college to have job security upon graduation. However, students are still students. This means that students are still bound by the academic work that they must complete in order to graduate and remain in good academic standing.

College seniors take the effort of securing a software engineering position before graduation very seriously. This is the story of Vincent Yeh; from September of 2016 to April of 2017, he interviewed with 42 companies and landed a job as a software engineer at Apple after 7 months of interviewing. He sent 270 applications and moved on to 45 first-round interviews. Of the 45, he continued with 33, and he was given 3 offers. He specifically mentions that he "limited many of [his] non-job search activities such as sports, gaming, socials, and sometimes academics" (Yeh, 2017). In addition, he studied for technical interviews on average three hours per day using technical interview preparation websites such as LeetCode, HackerRank, and CareerCup.

This is not an abnormal life for the average college senior looking to secure a full-time position as a software engineer. The students must perform a juggling act between the homework assignments, the in-class assignments, the exams, and all of the other things that come with being a student at a university and everything that comes with the job hunting process. With half of

their life dedicated to school and trying to fill whatever time they may have left with sending job applications, preparing for behavioral and technical interviews, doing personal projects, and actually doing the interviews, students feel an overwhelming sense of pressure and stress that result in physical, mental, and emotional complications.

In this study, I explore the health effects felt by students due to the imbalance of academic workload as well as the time and effort that they must put in for the job hunting process. This imbalance begs the question of whether or not a major shift and/or change is required of students and the education system to improve the conditions of students and if so, what can be done about it. I examine the problem space and depict the life of a "overworked" computer science student during their last year of university. I lay out the methods of research as well as the results collected from these methods which involved surveys and interviews conducted with students and professors. These results, with the support of published works, are used to investigate the roots of the problem as well as identify possible solutions that can be applied.

Methods: Ethnographic Research

I conducted a survey in order to gain a more holistic perspective of the effects of balancing job hunting and academics. The questions asked in this survey can be found in Appendix A. This survey was given to students who attended or are attending the University of Virginia. The University of Virginia has a different degree program for students attempting to pursue a bachelor's in computer science; one can either enroll in the College of Arts and Science and upon completion of the requirements, obtain a Bachelor of Arts in Computer Science (BACS) degree or enroll in the School of Engineering and Applied Science and obtain a Bachelor of Science in Computer Science (BSCS) degree. The main difference between the two

comes from the different required classes that students must take depending on which school they are enrolled in (UVA Engineering, 2022). This survey was designed to be answered by a person attending a school with this format, such as Cornell University and others, to understand how the relative courses that students take may be different based on their enrollment and perhaps how their mental and physical health may be impacted as a result of this difference.

I also conducted interviews with willing participants who wished to remain anonymous. They were all current students in their final year of undergraduate study. The questions asked in the interviews can be found in Appendix B; they were formed to get a more detailed perspective on how they balanced job hunting and academics, how their lives were impacted by the decisions they made to achieve balance, how relevant their coursework was to helping them perform well during interviews, and what possible improvements that can be made by the school, the company, or themselves that can make the last semester better.

Finally, I had a dialogue with Assistant Professor Panagiotis Apostolellis of the University of Virginia. We spoke about the current state of computer science education and possible reasons, from a faculty perspective, why some students fail to strike a balance between academics and job hunting.

Results

A. Survey

The survey was answered by a total of 63 students. Of these students, 55 students did search for a job at some point during their last year of college, and the remaining 8 accepted the return offer from the company they previously interned at. Of the 55 students that continued to look for a job, by the time of them answering the survey, 39 of them secured a job to begin after graduation while 16 of them were still searching and did not have any offers.

27 out of the 39 students that secured a job were pursuing a BACS, and the remaining 12 were pursuing a BSCS. 12 out of the 16 students that had not yet secured a job were pursuing a BACS, and the remaining 4 were pursuing a BSCS.

According to Figure 1, when asked about how much time the students spent for academics, a greater percentage of students who did not have offers also spent less time doing academic work. College coursework or academics refers to any work that pertains to the success of the student's academics, such as attending class, homework, studying for exams, and others.

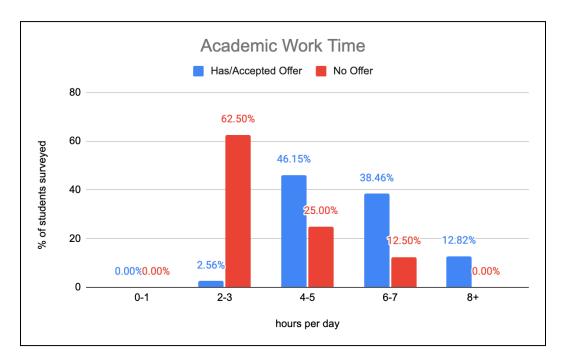


Figure 1: Hours spent per day on academics

According to Figure 2, both students who have offers and don't have offers spent a similar amount of time doing any job-related activities, but students who had offers generally practiced more. Job preparation activities refers to any work that pertains to the success of the student's job hiring and interviewing process, such as practicing behavioral and technical interviews, doing personal projects, and others.

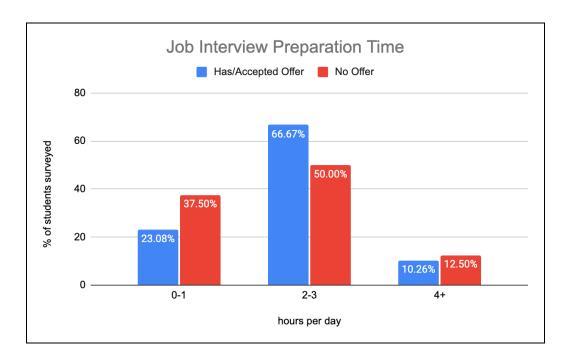


Figure 2: Hours spent per day on job preparation

According to the collection of statistics in 2019 by the American College Health Association, the factors that contribute the most to academic impacts included anxiety, depression, sleep difficulties, and stress. 51.2% of students surveyed that the most commonly difficult life circumstance they had to handle was academics. It was also found that only 8.5% of students didn't feel "tired, dragged out, or sleepy during the day" (ACHA, 2019). Mental health includes the emotional and psychological effects that are experienced by individuals. It also includes social well-being as a part of mental health as a large part of mental health comes from healthy interactions with people in their social groups (MentalHealth, 2022).

In terms of the personally conducted survey, when it came to areas of their lives that were impacted because of academics and job hunting, it seemed stress, anxiety, physical exercise, and social life impacted almost everyone that was surveyed. One notable difference found in the survey was that physical activity seemed to affect those who haven't receive full-time employment offers as much.

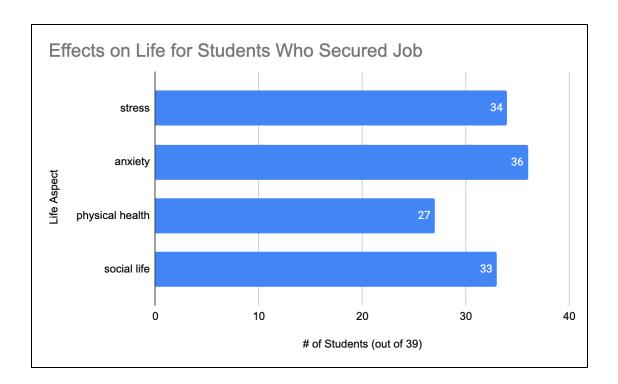


Figure 3: Life Aspects impacted for students who secured full-time offers

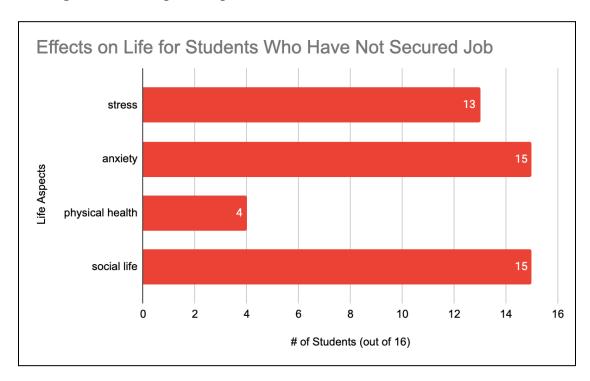


Figure 4: Life Aspects impacted for students who had not yet secured full-time offers

I also tried to understand how people felt personally about their course selections. In the survey, I asked the question "how many electives did you take because they were 'GPA boosters'?" "GPA booster" courses are courses that are known to be easy to receive a high grade with a considerably less amount of effort. Due to the differences in requirements based on which degree the student is pursuing, I wanted to ask this question to find a relationship between students selecting more classes that were easier, but not very relevant to their career and their success in finding balance between job hunting and academics.

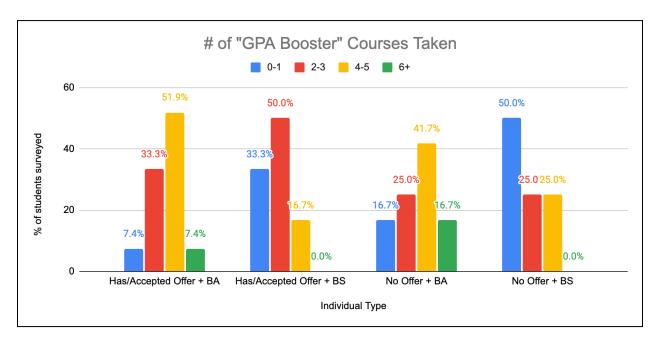


Figure 5: Number of "GPA booster" courses taken in college career

The results of the survey can be found in Appendix C.

B. Student Interviews

There were three willing participants to answer my interview questions.

The first student (Interviewee A) was a student who is on track to receiving a Bachelor of Science in Computer Science come spring of 2023. They acquired a position as a software engineer and will begin in July after graduation. They thought that finding the balance between

job hunting and academics was very difficult and never really struck the balance. They spent eight or more hours a day to get through class assignments and supplemental studying and spent another three hours a day practicing technical interview questions. They thought that stress had the biggest impact on their health; they were skipping meals, skipping physical exercise, and sometimes went weeks doing 7 or more assessments or interviews per week. They also said that most of the classes that they took that were useful were requirements of the Bachelor of Science program at UVA, such as Algorithms and Advanced Software Development Techniques.

Suggestions they made to make this experience better was to take a gap semester for applying to jobs or having programs at school are more engaged in connecting students with companies throughout their college career to haver more experience.

The second student (Interviewee B) is on track to receive a Bachelor of Arts in computer science, and they acquired a position as a result of a return offer from the company they interned at. They mentioned that not having to worry about balancing job hunting and academics allowed them to work on their mental health by not having to sacrifice things such as physical exercise and social life. Interviewee B said that they didn't take any computer science as "GPA boosters", but instead selectively chose easy classes for their electives to lighten the course load. They did not have any suggestions to make the imbalance better because they believe it mostly has to do with luck.

The third student (Interviewee C) is on track to receive a Bachelor of Science in computer science, and they have yet to acquire a full-time software engineering position.

Interviewee C mentioned that anxiety is the most greatly impacted part of their life because of the feeling that they are a step behind their peers and that they are not practicing enough.

Another part of their lives that were impacted was the social life that they had to limit because

they had to "work on various things like personal projects or [keep] up with [their] classes." They believe that the coursework had a positive impact on their resume because they could speak on their experiences in regards to working in a group, but otherwise, it didn't have a great impact in terms of guiding students in behavioral or technical skills desired by interviewers at companies. A suggestion that the student made was for professors to assign less work for students to focus on career advancement.

The interview responses can be found in Appendix D, E, and F.

C. Professor Interview: Panagiotis Apostolellis

Professor Apostolellis shared his opinion on what could be the cause and effect of the imbalance between academics and job searching. He believes that it's a bidirectional problem. Since a young age, students learned that receiving the highest marks on assignments and exams is equivalent to academic success and achievement. The schools also stress the importance of the grading system of their classes and how one can receive the highest grades. This has led to the schools unintentionally enforcing the strict mindset of needing to perform well in the school environment in order to be successful. Due to this unbroken mindset, it is Professor Apostolellis' opinion that this has led to many students taking courses that have a reputation for being easy, and these classes don't have applicable skills to the industry. He believes that students should get out of their comfort zone and this inflexible mindset because that is what the companies want to see, and at the same time, schools should stress that the grading structure should change because it should be understood by every relevant entity that scores are not as important as the material taught in class.

The interview response can be found in Appendix G.

Analysis: Potential Causes and Potential Solutions

A. Let One Go?

Based on the results, it seems that most students feel some aspect of their lives, whether emotional, social and/or physical, being negatively affected by the balance of coursework and job hunting. The story of Vincent Yeh as well as the perspectives from the student interviews suggest that reducing time and effort spent on academics may help those who struggle with time management and diminishing mental and physical health. Also the results show that students without an offer for a full-time position also spend less time on academic work than those that do have an offer. This, in conjunction with the survey results which showed that those who have offers spent a greater amount of time on job preparation as well, is surprising.

This result states that those who worked longer periods of time on both coursework and job preparation have job offers. This is an interesting point that should be highlighted as this implies that sacrificing coursework is not necessarily the answer to those that are struggling time management issues with coursework and job hunting.

B. GPA over Learning

A research by Claire Wagner of Miami University found that 91% of employers valued interview performance over the interviewee's GPA in their final hiring decision, and only 25% of employers said that "GPA was the first or second most important factor when reviewing an applicant" (Wagner, 2015). Based on the results, one of the main issues that stand out is the focus on a higher GPA over relevant education. According to the surveys, most students take at least two classes that are considered "GPA boosters". This means that many students are enrolled in college courses that are do not contribute to their interests/knowledge, much less contribute toward their career skills. This could lead to the lack of applicable careers skills that prevent

students from excelling in the job interviewing process which lead to greater mental health issues such as anxiety and depression. Furthermore, even if students are taking classes that are relevant to their careers, because the stress of ending with the a 4.0 GPA is so great, striving for perfection causes many students to not apply their time toward experiences that would add to their resumes (Bouchard, 2021).

Alfie Kohn's "From Degrading to De-Grading" articulates three main effects of emphasizing the importance of grades in schools. One is that it "reduces the students' interest in the learning itself" (Kohn, 1999). Studies have shown that student demonstrate less interest in learning as a result of being graded. Another important point to highlight is that "grades tend to reduce students' preference for challenging tasks" (Kohn, 1999). They are led to focus their efforts on getting a good grade which ultimately leads to them choosing the easiest means of achieving it. This results in the adaptation "to an environment where good grades, not intellectual exploration, are what count" (Kohn, 1999). The third effect is that grades tend to reduce the quality of students' thinking because students will think less deeply in something that they are less interested in due to the fact that they are aware that there is a grade involved.

The focus on the grading system by the school and the student is a cycle that is deeply rooted in the nurturing of children from a young age in institutional education. This is a core issue that creates this craving for a high GPA mentioned by Kohn and Apostollelis. The stress of believing that they must achieve the highest scores and additionally applying to jobs has caused many students to deprive themselves of sleep, exercise, and social life. Furthermore, the students who achieve the highest grades also take advantage of the GPA system by taking easier classes while learning less career-relevant material. Meanwhile, the students who achieve the highest

grades that take career-relevant material, also find themselves not being able to find the time necessary to tend to their mental and physical health.

To solve this problem, it must be worked upon at the roots. The schools must encourage students that accolades and success come not from the grades that they receive but the content they absorb and learn to nurture their knowledge and interests. If people are less inclined to take on challenging problems to take an easier course of action, then there would be less progress. If software engineering students are less inclined to take on challenging problems, then they would not be able to cultivate the skills necessary to be successful in their interviews and potentially their career in software engineering.

C. Learning the Wrong Way

Once students have established the mindset that educational institutions are places to learn and grow rather than achieve what the teachers consider a good score, an exploration of what companies and their interviewers are looking for in new hires. According to a study conducted at the University of Pennsylvania by Kennedy Manley, survey results displayed that 62.9% of students out of 213 believe that their productivity and success have been impacted by mental health issues. They also learned that students believe that their growth is limited due to the inability to collaborate with others on their projects (Manley, 2020). In an industry where collaboration is key, this is an important skill that is not encouraged in many computer science classes at the university level. While companies are looking for students who have experiences that can translate to the industry level, most traditional computer science courses do not help students gain these experiences. Attaining these experiences can significantly help students secure full-time employment earlier in their academic year such that the concurrence of academic work and job hunting can be short-lived.

This requires a reformation in teaching methods from more individual-focused to project-focused learning. The idea of implementing more hands-on education when it comes to software engineering education has been around for a long time. Tang Xiao-jun, Lu Ying, and Liu Na, conducted a study on experience-based training versus traditional teaching methods in computer science. "Projects introduce students to teamwork, which is unavoidable for large-scale software development" (Tang, 2014). They surveyed that upon making changes to the training to a more project and experience-based approach, students showed higher levels of satisfaction and indicated that the content they learned was very applicable to their careers (Tang, 2014).

Furthermore, there is a certain level of stress that comes with the rejection of applications and after interviews. Many of them do not give constructive criticism that students can learn from to continue getting better at interviews. But do students really understand what recruiters and/or interviewers want to see of them?

Groenveld and others performed a study that highlights the non-technical skills that students simply are not taught by the school. The schools teach a certain level of technical skills, but shy away from teaching the skills that help them stand out. They write that it is "no longer [sufficient] to be technically proficient" to be successful as a software engineer today. They found that the non-technical skills that are important to attain while learning include a "devotion toward continuous learning", "being a creative problem solver", and "thinking in solution-oriented ways that result in outcome over ego" (Groeneveld, 2021).

Education methods that are focused on teaching real world skills, both technical and non-technical, is one of the most important and systematic changes that can be made in order to help students. Students who feel confident in their knowledge and are more aware of their

skillsets are more likely to have less stress because they are not cramming the interview knowledge to successfully complete the industry's tests.

D. Asymmetry between Classroom and Workplace

Many students implied that their physical health was affected as a result of the concurrence of academics and job hunting. Surveys explained above speak on the impact that academics alone have on sleep. The interviews also highlighted how time insufficiency attributes to the stoppage of physical activity for certain college students. School is not a good reflection of the life of a software engineer. In February of 2020, nearly 65,000 developers were surveyed by Stack Overflow, and it was found that they work on average 40 to 45 hours per week (Stack Overflow, 2020). This is very incongruent with the average life of a student in their final year and seeking a full-time employment offer. According to Figure 1 and 2, students were spending anywhere between zero to twelve or more hours per day studying. Many students have no idea what it's like to experience the real world.

An attempt to expose students to real world experiences have already been established in some universities, and it primarily revolves around providing students with quality co-ops.

Co-ops, or cooperatives, are internships that extend throughout the school year and often involve students taking a leave of absence from the school. Internships and co-ops allow students to experience industry-level projects as well as teach them how to interact and network with them as well (Dean, 2011). Some schools take it even further and are greatly involved with the student's and their matches to companies, such as the University of Waterloo where their co-op program help students "graduate with up to two years of work experience", "earn money to help finance their education", and "explore career areas before graduation" (Waterloo, 2020). They also boast a 92% co-op employment rate with 80% of computer science students enrolled in the

co-op program. These co-op programs also help students gain more experience in interviewing, and they learn through trial-and-error how to conduct themselves in interviews, what they need to study, how they need to study, etc. These are all aspects of a matching program that may help reduce the student's mental health effects by preparing students consistently and help them be always "interview-ready".

Although there are pros and cons to this matching program, it cannot be refuted that this system allows students to explore their career interests and gain real world experiences that can accelerate their career, and possibly avoid the concurrence of academics and job-hunting.

Limitations

There is a considerable amount of limitations in this piece of research. One is that the conducted research has a very limited sample size, so it may be difficult and unrealistic to extrapolate the statistics over a much greater population.

Another limitation is that there are certain subgroups that learn computer science that may not be able to take up the solutions provided in this paper. There is a certain level of socioeconomic barrier that allows some to not be able to excel in the industry as others due to a lack of resources. This includes premium access to technical interview preparation sites, access to the video conferencing software that many companies now use to conduct interviews.

Furthermore, the greatest limitation of this piece is that it does not take into account other aspects of life that may contribute negatively to the imbalance of academic workload and job hunting. This is something that would require a lengthier period of study.

Conclusion and Future Works

There is a significant problem among students in their final year of study having to balance their university's courseload and the process of finding and securing a full time position

after graduation. Much of this imbalance comes from misconceptions that students have about their own employability and the structured systems in place in the form of colleges. This is an important issue because many students feel mental, emotional, and physical affects that negatively impact their ability to balance two principal parts of their lives. Solutions proposed to negate or improve this balance are to put less emphasis on the grading system, to change the methods by which students learn computer science from less of a individualistic one to one that feels closer to real life experiences, and to provide students with ample opportunities to experience the software industry first-hand as many times as possible.

In terms of future research, exploring background differences in various social categories and the degree of impact on the imbalance of work may illuminate the underlying advantages and disadvantages one have over others.

References

- American College Health Association. American College Health Association-National College Health Assessment II: Reference Group Executive Summary Spring 2019. Silver Spring, MD: American College Health Association; 2019.
- *Co-op and regular*. Cheriton School of Computer Science. (2020, August 11). Retrieved February 15, 2023, from https://cs.uwaterloo.ca/future-undergraduate-students/co-op-and-regular
- CS undergraduate programs. University of Virginia School of Engineering and Applied Science. (2022, October 27). Retrieved February 13, 2023, from https://engineering.virginia.edu/departments/computer-science/cs-undergraduate-programs#a ccordion396964
- Dean, C., Lynch, T.D., & Ramnath, R. (2011). Student perspectives on learning through developing software for the real world. *2011 Frontiers in Education Conference (FIE)*, T3F-1-T3F-6.
- Groeneveld, W., Vennekens, J., & Aerts, K. (2021). Identifying non-technical skill gaps in software engineering education: What experts expect but students don't learn. *ACM Transactions on Computing Education*, 22(1), 1–21. https://doi.org/10.1145/3464431
- Kohn, A. (2016, February 23). *From degrading to de-grading*. Alfie Kohn. Retrieved February 14, 2023, from https://www.alfiekohn.org/article/degrading-de-grading
- Manley, Kennedy. (2020, September). Sources of Distress and Stress Among Undergraduate Computer Science Students. [PURM]. Penn Undergraduate Research Mentoring, USA
- Stack overflow developer survey 2020. Stack Overflow. (2020, February). Retrieved February 15, 2023, from https://insights.stackoverflow.com/survey/2020#overview
- Tang, X.-J., Lu, Y., & Liu, N. (2014, August). Exploration and reformation of teaching methods for "Software Engineering" Course. 83-86. 10.2991/ICAICTE-14.2014.19
- U.S. Bureau of Labor Statistics. (2023, February 6). *Software developers, Quality Assurance Analysts, and testers: Occupational outlook handbook*. U.S. Bureau of Labor Statistics. Retrieved February 14, 2023, from https://www.bls.gov/ooh/computer-and-information-technology/software-developers.htm
- What is mental health? What Is Mental Health? | MentalHealth.gov. (2022, February). Retrieved February 23, 2023, from https://www.mentalhealth.gov/basics/what-is-mental-health
- Yeh, V. (2017, April 23). 270 applications and 7 months of interviewing to land a job as a new grad. LinkedIn. Retrieved November 30, 2022, from https://www.linkedin.com/pulse/270-applications-7-months-interviewing-land-job-new-grad-vincent-yeh/
- Wagner, C. (2015, July 22). *High GPA leads to interview; Good interview leads to job.* Miami University. Retrieved April 3, 2023, from https://miamioh.edu/news/top-stories/2015/07/gpa-interview-job.html

Appendix A

Survey Questions and Answer Choices

- 1. Are/Were you a full-time student at any point during your last year of college when you are/were also searching for a job to begin after graduation?
 - a. Y/N
- 2. If you answered YES to question 1, did you acquire a job to begin after graduation?
 - a. Y/N
- 3. If you answered NO to question 1, how would you describe your situation?
 - a. Free Response
- 4. If you answered YES to question 2, are you in progress of BA or BS?
 - a. BA/BS
- 5. If you answered YES to question 2, how many hours a day did you spend to work on job interview preparation?
 - a. 0-1/2-3/4+
- 6. If you answered YES to question 2, how many hours a day did you spend on college coursework (includes classes, homework, studying for exams, etc)?
 - a. 0-1/2-3/4-5/6-7/8+
- 7. If you answered YES to question 2, which of the following aspects of your life would you say were impacted by the balance between job interview preparation and college coursework?
 - a. Stress/Anxiety/Physical exercise/Social Life
- 8. If you answered YES to question 2 and BA to question 4, in your honest opinion, how many electives did you take because they were "GPA boosters" (including Integration Electives) throughout your college career?
 - a. 0-1/2-3/4-5/6+
- 9. If you answered YES to question 2 and BS to question 4, in your honest opinion, how many electives did you take because they were "GPA boosters" (including Unrestricted Electives) throughout your college career?
 - a. 0-1/2-3/4-5/6+
- 10. f you answered NO to question 2, are you in progress of BA or BS?
 - a. BA/BS
- 11. If you answered NO to question 2, how many hours a day did you spend to work on job interview preparation?
 - a. 0-1/2-3/4+
- 12. If you answered NO to question 2, how many hours a day did you spend on college coursework (includes classes, homework, studying for exams, etc)?
 - a. 0-1/2-3/4-5/6-7/8+
- 13. If you answered NO to question 2, which of the following aspects of your life would you say were impacted by the balance between job interview preparation and college coursework?
 - a. Stress/Anxiety/Physical exercise/Social Life
- 14. If you answered NO to question 2 and BA to question 10, in your honest opinion, how many electives did you take because they were "GPA boosters" (including Integration Electives) throughout your college career?
 - a. 0-1/2-3/4-5/6+
- 15. If you answered NO to question 2 and BS to question 10, in your honest opinion, how many electives did you take because they were "GPA boosters" (including Unrestricted Electives) throughout your college career?
 - a. 0-1/2-3/4-5/6+

Appendix B

Student Interview Questions

- 1. What is your year and major, and are you pursuing a BA or BS?
- 2. Do you currently have a position that's in the career field of your choice to start after graduation?
- 3. What is your experience with balancing job hunting and coursework?
- 4. Which aspects of your life was most impacted by this balance/imbalance?
- 5. Do you believe that your coursework had a role in helping your interview processes?
- 6. Are there any suggestions about what could make this experience better?

Appendix C

Student Survey Questions and Answers

9. If you answered YES to question 2 and BS to question 4, in your honest opinion, how many electives did you take because they were "GPA boosters" (including Unrestricted 1. Are/Were you a full-time student at any point during your last year of college when you Electives) throughout your college career? are/were also searching for a job to begin after graduation? a. 0 to 1: 4 a. Yes: 55 b. 2 to 3: 6 b. No: 8 c. 4 to 5: 2 2. If you answered YES to question 1, did you acquire a job to begin after graduation? d. 6 or more: 0 a. Yes: 39 10. f you answered NO to question 2, are you in progress of BA or BS? b. BS: 4 3. If you answered NO to question 1, how would you describe your situation? 11. If you answered NO to question 2, how many hours a day did you spend to work on job a. Return Offer: 8 4. If you answered YES to question 2, are you in progress of BA or BS? interview preparation? a. 0 to 1: 6 b. 2 to 3: 8 b. BS: 12 c. 4 or more: 2 5. If you answered YES to question 2, how many hours a day did you spend to work on job 12. If you answered NO to question 2, how many hours a day did you spend on college interview preparation? coursework (includes classes, homework, studying for exams, etc)? a. 0 to 1:9 a. 0 to 1: 0 b 2 to 3:26 b. 2 to 3: 10 c. 4 or more: 4 c. 4 to 5: 4 6. If you answered YES to question 2, how many hours a day did you spend on college d. 6 to 7: 2 e. 8 or more: 0 coursework (includes classes, homework, studying for exams, etc)? 13. If you answered NO to question 2, which of the following aspects of your life would you a. 0 to 1: 0 say were impacted by the balance between job interview preparation and college b. 2 to 3: 1 coursework? a. Stress: 13 c. 4 to 5: 18 d. 6 to 7: 15 b. Anxiety: 15 c. Physical exercise: 4 e. 8 or more: 5 7. If you answered YES to question 2, which of the following aspects of your life would you d. Social life: 15 say were impacted by the balance between job interview preparation and college 14. If you answered NO to guestion 2 and BA to guestion 10, in your honest opinion, how coursework? many electives did you take because they were "GPA boosters" (including Integration a. Stress: 34 Electives) throughout your college career? b. Anxiety: 36 Physical exercise: 27 b. 2 to 3: 3 c. 4 to 5: 5 d. Social life: 33 d. 6 or more: 2 8. If you answered YES to question 2 and BA to question 4, in your honest opinion, how 15. If you answered NO to question 2 and BS to question 10, in your honest opinion, how many electives did you take because they were "GPA boosters" (including Integration many electives did you take because they were "GPA boosters" (including Unrestricted Electives) throughout your college career? Electives) throughout your college career? a 0 to 1:2 a. 0 to 1: 2 b. 2 to 3: 9 4 to 5: 14 c. 4 to 5: 1 d. 6 or more: 2

Appendix D

Interviewee A

What is your year and major, and are you pursuing a BA or BS? I'm a 4th year student majoring in Computer Science, and I'm on track to receiving a BS.

Do you currently have a position that's in the career field of your choice to start after graduation? Yes, I acquired a position as Associate Software Engineer to begin in July after graduation which is in May.

What is your experience with balancing job hunting and coursework? For me, the balance was hard to find, and in fact I don't think I ever really struck a balance between the two. It's like having two full-time jobs; I was spending 8+ hours a day to get through classes and the homework that I received from these classes. Then I would spend 3+ hours preparing for interviews. It got especially bad during the times I had to study for exams where I spent 11+ hours a day for coursework.

Which aspects of your life was most impacted by this balance/imbalance?

I think the stress it caused me on how I almost felt like I needed to have a position lined up before I graduated was unhealthy. I was skipping meals to get more work done, I was skipping my daily runs, I had a couple weeks where I was doing 7 or more interviews... My friends would come over to my apartment a lot, and many times I would need to tell them that I have work to do in order for me to finish studying so that I can begin practicing LeetCode. It was like work,work,work. My mental health got a lot better after I finished the interview process because I was able to live my usual life.

Do you believe that your coursework had a role in helping your interview processes? I would say being in the Engineering School forced me to take most classes that are helpful with the interview process, both technical and behavioral. I was able to put my project from CS 3240 on my resume, and I was able to speak on that experience which the interviewers seemed to appreciate. And classes like Algorithms were very helpful in teaching me how to think. There are some electives that I took because they sounded fun and I heard they were easy but don't necessarily have much impact on what I wanted to do career-wise such as Cybersecurity. So I would say overall, the coursework did help me to some extent, but the time it took to try to get a good grade in these classes also contributed to me not being able to practice the more interview-like questions.

Are there any suggestions about what could make this experience better? I can't really think of anything but just taking a complete semester off in order to apply to jobs. Or if there is a program that connects students to companies more directly, that would be good too. I've heard that some universities are more engaged in connecting students with internships throughout their whole college career.

Appendix E

Interviewee B

What is your year and major, and are you pursuing a BA or BS? I'm a 4th year student majoring in Computer Science, and I'm on track to receiving a BA.

Do you currently have a position that's in the career field of your choice to start after graduation? Yes, I acquired a position as Software Development Engineer to begin in August after graduation which is in May.

What is your experience with balancing job hunting and coursework?
I received a return offer from my internship, so I didn't have to worry about this balance.
However for me to get the internship in my third year, I was stressed because I couldn't find a job during my fall semester. I didn't pick up the pace on applying to jobs until my spring semester. But even with that, I prioritized being healthy so physical exercise and social life are not things that I compromised.

Which aspects of your life was most impacted by this balance/imbalance?

Not having to apply for jobs during my senior year is really nice because I'm able to enjoy the last semester with friends and take a lighter course load and experience different parts of Charlottesville that I never had the time and/or opportunity to.

Do you believe that your coursework had a role in helping your interview processes? Most of the electives I took were because I wanted to balance the work load I had. So my computer science classes were chosen to look good on my transcript, but any classes that were requirements of the school, I took because they were popular for being easy.

Are there any suggestions about what could make this experience better? I think the experience is mainly up to luck on whether you have to apply to jobs or not. I was fortunate enough to get the return offer but I know that many of my friends who did not receive a return offer are struggling to find jobs during this period of major layoffs.

Appendix F

Interviewee C

What is your year and major, and are you pursuing a BA or BS? I'm a 4th year student majoring in Computer Science, and I'm on track to receiving a BS.

Do you currently have a position that's in the career field of your choice to start after graduation? No, I am still looking for a software engineer position.

What is your experience with balancing job hunting and coursework?

It's been hard especially because of the layoffs. Many companies stopped responding. But in the hopes they do, I still work on a lot of LeetCode everyday. I'm always on the lookout for new LinkedIn posts, and it's difficult to try to do well in my classes when all of my focus is on having a stable job post-graduation.

Which aspects of your life was most impacted by this balance/imbalance?

Mainly the anxiety. Many of my friends around me either received return offers or found positions. I feel like that I am behind my peers. I'm not sure about how they feel, but I feel like the anxiety comes from my self-perception that I'm not practicing enough because I spend a long time on my homework and studying for exams. I feel like as a student I should try hard to get A's, but it's hard to focus on that when I'm constantly under pressure, trying to secure a software engineer position. I would say another aspect is that my social life was impacted to some extent because I definitely say no to hanging out on the weekends and nights throughout the week so that I can work on various things like personal projects or keeping up with my classes. A big part of my social life was going to the gyms with a couple of friends, but that's also been more difficult to keep up.

Do you believe that your coursework had a role in helping your interview processes? I would say that my coursework was somewhat helpful, but I think the things that I do personally are helping more. Of course the projects that I do for classes that I can also put on my resume are hit-two-birds-with-one-stone kind of things which I appreciate from my classes. But in terms of technical skills, and maybe even behavioral skills that recruiters look for, aren't very stressed in the classes I took.

Are there any suggestions about what could make this experience better?
Blanket suggestions are hard to make because I understand that the class can't be made "less stressful" just for a select group of students. But I think if there is a greater empathetic response from the professors, that some of us fourth year students and even third year students are busy outside of classes with applying and interviewing for jobs and internships, it may help us receive less work to have to balance. But yeah, like I said before, that's hard to do.

Appendix G

Professor Panagiotis Apostolellis Summarized Interview

Grading system is biggest flaw.

Students are brainwashed into thinking that they need the highest GPA possible, so they purposely take courses that have a reputation of being easy without necessarily the benefit of being useful. This leads to students not selecting courses that have applicable skills to industry and rather look to boost their GPA.

Students have to get out of this mindset and their comfort zone because that's what the industry is like. At the same time, schools must stress the idea that grades aren't everything and be more lax with their grading structure since that's not what's important at the end of the day, it's about teaching students the material as well as possible.

Studies show that recruiters are 80% more likely to select students who have study abroad experience because recruiters want to see that kids are exposed to new things in life.