Retrospective Evaluation of Technical Interview Preparation Activities offered in a Data Structures and Algorithms Course

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ABSTRACT

Technical interviews are commonly used by employers to recruit students for computing internships and jobs. These interviews assess students' professional and technical skills, particularly their proficiency in data structures and algorithms (DSA). To prepare students for such interviews and help them secure employment, we introduced technical interview preparation activities, including mock interviews, in a large DSA course to 3,526 students over 12 consecutive semesters. In our previous work, we investigated the efficacy of our activities in preparing students for the employment recruitment process immediately after their participation. This paper presents results from a new retrospective survey-based study in which 512 students evaluated our activities one to twelve semesters after their participation. We investigate: (1) students' ability to recall participation, (2) their perceptions of our activities' impact on metrics such as familiarity with the interview process or self-confidence, (3) the influence of activities on subsequent preparation practices and applying actual internships/jobs, and (4) the role of these activities in securing employment. We found that 74% of the students were able to recall our activities. Most students reported that our activities increased their familiarity and self-confidence, provided an opportunity to self-evaluate, and motivated and prepared them for subsequent interview practice or to apply for internships/jobs. However, the students noted that the activities alone were insufficient to secure employment. Nevertheless, they found our activities useful and proposed their continuation. Our work contributes an empirical retrospective evaluation of an intervention that has implications for improving student employment outcomes.

CCS CONCEPTS

• **Social and professional topics → Computing education**.

KEYWORDS

Technical Interview, Employment, Computing Education

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1 INTRODUCTION

Most employers recruit students and recent graduates for computing internships and jobs using technical interviews [21, 24]. These interviews are used by employers as an assessment tool to gauge students' technical and professional skills [24]. The interviews often require students to solve technical problems that involve data structures and algorithms (DSA) and/or system design [21]. However, students often report that these interviews are challenging, stressful, and anxiety-inducing [2–4, 7, 11] and they having a hard time preparing for these interviews with the extensive workload of degree programs [4, 13]. The latter challenge is especially experienced by underrepresented students in computing [19, 20] or students of low socioeconomic backgrounds who have to juggle part-time work or family responsibilities with their program workload [13]. As these interviews often determine career opportunities, preparing students to succeed in them is a critical component of computing education, especially since most undergraduate computing students have a professional goal of securing a job after graduation [12].

To address this challenge of preparing students for technical interviews, we developed *Hire Thy Gator* technical interview preparation activities consisting of mock interviews and implemented them in a large DSA course. We previously evaluated the reception of these activities by comparing key results between a control and intervention group using a survey-based study that was implemented immediately after student participation in our activities [14]. In this prior study, students reported that our activities improved their familiarity with the interview process, increased self-confidence, and provided opportunities for self-evaluation [14]. In this paper, we present findings from a new survey-based study in which 512 students retrospectively evaluated the efficacy of our activities one to twelve semesters after their participation and potentially with additional experience gained through the internship or job recruitment process. The central research question (RQ) that we aim to answer is *How effective are Hire Thy Gator Technical Interview Exercises in preparing computing undergraduate students to secure industry internships or full-time jobs*? Our results from this study complement the findings of our previous work [14], providing a comprehensive overview of the efficacy of our activities on the employment outcomes of students.

2 RELATED WORK

Hiring process. The hiring process in the US differs across computing fields such as software engineering, data science, and cybersecurity. Industry employers typically recruit interns and full-time professionals through a competitive, multistage selection process consisting of hiring applications and one or more technical and/or behavioral interviews [21, 24]. Stepanova et al. [24] assessed the variations in hiring experiences and found that technical interviews are used as a primary recruitment tool to recruit candidates for software engineering jobs. Previous work by Ford et. al. also explored the employer expectation of successful applicants in technical interviews [9]. This work found that the interviewers were interested in the problem-solving ability and interpersonal skills of candidates.

Student participation in technical interviews. Studies have also examined student participation in technical interviews, along with factors that contribute to or hinder their success. For example, Wyrich et al. investigated student characteristics that influence performance in coding challenges, finding that students who successfully completed these challenges scored higher grades and had more programming experience [27]. Lunn et al. also observed that students who had more coding experience had positive experiences with technical interviews [18] and Hall and Gosha found that African-American students performed worse in interviews if they had higher anxiety levels and their performance improved as they gained more interview experience [11]. Several studies have found that students who participate in technical interviews experience stress and anxiety that exacerbates their performance [2–4, 11] and the interview preparation process is time consuming for them [7]. *In summary, while these interviews can be stressful, increased practice of technical interview questions may lead to improved outcomes.*

Interventions to prepare students for interviews. To address these challenges, instructors or researchers have built platforms [17, 22], introduced interventions in courses [8, 26] or developed new courses [1, 10] to prepare students for technical interviews. These interventions include Urness's work that introduced technical coding exercises in a CS2 course [26]. However, this intervention emphasized individual problem solving, similar to coding tests, which are a precursor to actual technical interviews. Dillon et al. incorporated and evaluated coding exercises in a CS2 course where students were assigned to groups of three and were encouraged to think aloud and explain their solutions to peers on Zoom [8]. Although the students responded positively to these activities, they experienced notable levels of anxiety. In addition, this intervention was introduced in a smaller setting, did not follow the typical format of interviews, and the instructor provided interview questions to the students. *Our activities adopted a more realistic dyad format and demonstrated how to scale this approach in large classrooms through peer interviews, addressing the limitations of previous methods.*

3 METHODS

3.1 Course Context and Intervention

3.1.1 Course Context. Our intervention was implemented in a DSA course at a large public university in the USA. At this institution, admission to undergraduate programs is competitive, and while industry internships before graduation are not compulsory, they are encouraged. The DSA course is mandatory for CS and Computer Engineering majors and CS minors. It is typically taken after the CS1, CS2, and Discrete Math courses. Each semester, the course enrolls between 250-600 students in the Spring and Fall terms (~16 weeks), and 100-200 students in the Summer term (~13 weeks). Our course covers DSA topics such as Algorithm Analysis, Maps, Trees, and Graphs and instruction is provided in C++, with a balanced emphasis on theory and practical application. For the practical component, students solve short programming problems related to DSA and work on projects. The course is worth 3 credits, and students attend three instructor-led lectures and one discussion session per week, which is facilitated by a teaching assistant (TA). Students are assessed through weekly quizzes (each ~1% of course grade), two individual projects, a final group project, and two exams.

3.1.2 Intervention. Our intervention consisted of three activities (see Figure 1): (1) a panel on internship experiences in Week 5, (2) role-play demonstration by the TAs on how to conduct a technical interview in Week 6, (3) one or two mock interviews with a self-selected partner (in Week 8), and a random partner (in Week 13).

Panel. The goal of the panel was to make students aware of the importance of internships and introduce them to the recruitment process. The panelists consisted of peer mentors or TAs who previously interned and it was moderated by the Instructor.

Role play demonstration. During the role-play demonstration, the TAs performed the roles of an interviewer and an interviewee in a weekly discussion to give students a preview of what to expect in a technical interview. They emphasized the importance of using an iterative approach to problem-solving, highlighting the need to ask follow-up questions, and to either write pseudocode or explain the solution verbally before coding.

Mock interviews. Students were asked to work in pairs for one or two mock interviews. The variance in the interviews was due to student feedback that they preferred one interview instead of two due to the excessive workload. Between Fall 2020-Fall 2022, students participated in two mock interviews (one self-selected and one random partner), while since Spring 2023 they participated in one mock interview with a random partner. As part of each interview, the students assumed the roles of both interviewer and interviewee. This dual-role approach was designed to provide students with insight into the recruitment process from the interviewer's perspective. Additionally, this structure allowed the activity to be scalable for large classes, where course staff may not have the resources to conduct individual interviews for every student.

As a part of each mock interview activity, each student was required to complete two graded survey assignments — one as an interviewee and another as an interviewer. To support students in preparing for both roles, we offered optional resources within the survey descriptions, on how to approach technical interviews and two sample interview questions. The *assignment for interviewers* asked them to: (1) research and prepare an interview question, (2) coordinate and record the interview, (3) provide hints if the interviewee got stuck, and (4) offer actionable feedback on the interviewee's strengths and areas for improvement. The interviewers were asked to select a question related to Trees or Heaps for the first interview and Graphs or Sets/Maps for the second, which aligned with

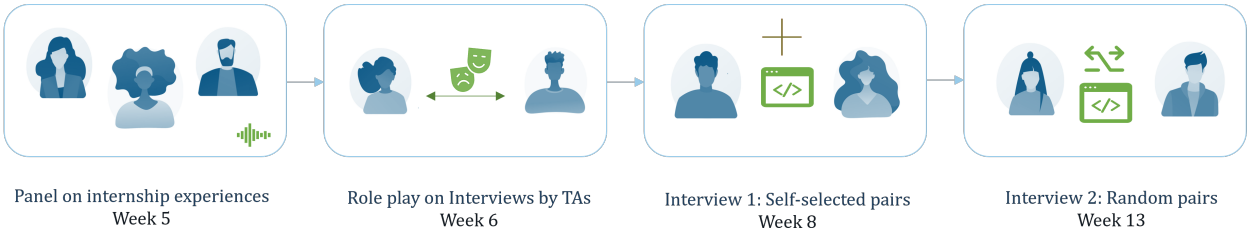

Figure 1: Workflow for Hire Thy Gator Technical Interview Exercises similar to as reported in our previous study [14]

the timeline of topics covered in the course and topics asked in technical interviews. The *assignment for the interviewee* had some strategies on what to do in an interview and reflection questions post the interviews. The interviewees did not know the question they were going to be asked, but were aware of the topics given to the interviewer. The mock interviews were graded based on completion as part of one or two weekly programming quizzes.

3.2 Study Design and Research Questions

To understand the efficacy of our activities in supporting students prepare for technical interviews or secure actual internships/jobs over the long term, we designed a longitudinal panel survey study [6]. In this design, data are examined from a specific cohort(s) of participants over time. We chose this design as we assess the efficacy of our activities on the student cohort who were exposed to our intervention. Students retrospectively evaluated the role of our activities in supporting them for (a) future technical interview preparation, and (b) securing an internship or job, one to twelve semesters after their participation in our activities. In this paper, we aim to answer the following RQ: *How effective are Hire Thy Gator Technical Interview Exercises in preparing computing undergraduate students to secure industry internships or full-time jobs?* We further explore this RQ using several dimensions as described in Table 1.

3.3 Survey Population and Sample

The sample for our survey is drawn from the population of undergraduate students who participated in our activities in a DSA course that was offered at the University of Florida from Fall 2020 to Summer 2024 (12 consecutive semesters). For all twelve semesters, the same Instructor (first author) taught the course. Our target population consists of 3,526 students who were enrolled in the DSA course and submitted course evaluations after the final withdrawal period. It excludes students who dropped our course (~12%) and multiple count of students who did not earn a passing grade (~7%) and may have retaken the course. Of these 3,526 students, 512 students completed our survey and are part of our sample (Response Rate: 15%). These students identified their gender identities as males (64%), females (30%), others (1%) or they did not specify their gender (5%). Most students in our sample were in Year 4 (47%), followed by Year 3 (35%), Year 5-6 (9%), Year 2 (6%), and others (1%) in our program. 63% of students in our sample participated in at least one internship and 37% of students did not pursue an internship. Of the latter 37% of the students, one third never applied for an internship position, while the remaining applied but failed to secure an internship.

3.4 Participants and Recruitment

Participants were recruited from courses that require our DSA course as a prerequisite such as software engineering, operating systems, introduction to machine learning, databases, and senior design. Our study was approved as exempt by local ethics board at our university. Announcement emails on the course learning management system, Canvas, were sent by respective instructors to make students aware of the study. The students in these courses received 1% extra credit towards their final grade for their participation. They were also provided an alternative assignment requiring equal effort in case they did not wish to participate in the study.

3.5 Data Collection

Our survey consisted of seven sections and at most 49 questions based were displayed to a participant based on answer logic. In this paper, selected questions from the demographics and intervention evaluation sections are used for analysis (see Table 1). These questions gauge whether students are able to recall our activity (RQ.A.) and compare aggregate data of the efficacy n-semesters after the activity with the data collected right after the activity in our previous study (RQ.B.). Additionally, the questions investigate the efficacy of our activities for motivating and preparing students to apply for internships/jobs and participating in subsequent interview preparation (RQ.C.) and assess its impact on students' ability to secure an internship or job (RQ.D.). The survey was rolled out in Fall 2024 and students spent on average 18 minutes to complete it.

3.6 Data Analysis

We use descriptive statistics such as mean and percentages to examine student responses to Likert scale statements. We analyzed one open-ended question using inductive thematic analysis [5]. The qualitative data was coded by the first author into primary codes, which were further abstracted to themes. To verify the reliability of the coding scheme, the second author reviewed the codebook to discuss the themes. In case of disagreements, the theme terminology was clarified and the definitions were modified until a consensus was reached through an iterative process. This was followed by a frequency analysis on these codes and themes.

3.7 Authors' Positionality

The first author worked as an intern in the software industry and the second author did four internships during their CS degree programs. Both authors believe that participating in internships has value in gaining employment, and to secure employment, one has to take

Sr. No.	Dimension	Sub Research Question	Sample Questions from Survey
RQ.A.	Recall	Are students able to recall participating in our activities?	Hire Thy Gator Technical Interview Exercises consist of an activity where you get paired with a student and participate in mock interviews. Each student in the pair interviews the other student taking turns. Do you remember participating in mock interviews in any course in the curriculum? *Options:* (1) Yes, I remember participating in ___ course, (2) No, (3) Unsure, (4) Others, please specify ___
RQ.B.	Efficacy of the activities	What are student opinions on the effectiveness of our activities on metrics such as usefulness, increasing familiarity with interviews, providing an environment for self-evaluation, or helping them build confidence, n-semesters after their participation?	Mock interview exercises: • increased my familiarity with the technical interview process. ⋆ • allowed me to understand my weaknesses and strengths to succeed in a future technical interview. ⋆ • increased my self-confidence to succeed in a technical interview in the future. ⋆ • are a useful activity that is beneficial for me to succeed in a future technical interview. ⋆
RQ.C.	Efficacy regarding subsequent preparation practices and applying behavior	Did our activities motivate and prepare students for subsequent interview preparation after our course as well as foster their agency to apply for internships/jobs?	• Mock interview exercises *[prepared / motivated]* me to - – participate in subsequent mock interviews ⋆ – participate in subsequent individual programming practices (e.g., Leetcode style questions) ⋆ – apply for internships or jobs related to computing ⋆
RQ.D.	Efficacy for securing a job	What role did our activities play in helping students secure an internship or job post their participation?	• Mock interview exercises helped me in securing an internship/full-time job. ⋆ • What role did mock interview exercises play in helping you to secure an internship or a full-time job? †

⋆ 5-point Likert Scale: *Strongly agree to Strongly disagree;* † *Open-ended Qualitative Question*

Table 1: Sub Research Questions and Survey Questions mapping

active steps outside of coursework such as participating in mock interviews or practicing technical interview questions. This position might have influenced our qualitative coding process.

3.8 Limitations

Our response rate is low, as finding students who have participated in our activities is difficult, which is typical of longitudinal panel studies [6]. However, we purposefully identified students in the upper-level courses. Additionally, at the time of data collection, there may be some students who would have graduated or dropped out of our program since our intervention's offering. The latter may induce *survivorship bias* [15] in our sample, as we do not cover voices of all students. Another limitation of our study is the *single group threat* [25] as we do not collect data from a control group of students. Students in our sample are also subject to *maturation effects* [23] as they could have prepared for technical interviews after our course. They may conflate our activities with subsequent preparation activities. We have additional checks, such as explicitly pointing them to recall our activities to confirm the validity of our results. Lastly, we will attempt to address the validity of our qualitative analysis through the transparency of our coding process, using participant quotes, and by revealing our positionality [6].

4 FINDINGS AND RESULTS

4.1 Recall (RQ.A.)

Of the 508 students who completed the survey and answered this question, 74% (n=375) recalled participating in our activities. Of these 375 students, 92% (n=346) were able to correctly recall participating in them in our DSA course and 8% (n=29) couldn't recall the correct course. 19% of the 508 students (n=94) claimed to have not participated in our activities and 8% (n=39) of the 508 students were unsure and did not remember participating. There was not a lot of variance across students from different cohorts (Fall 2020 - Summer 2024) who could recall participation as 70-78% recalled participating in our activities for all cohorts that had atleast 10 respondents from a semester.

4.2 Efficacy of our Activities (RQ.B.)

A majority of students reported that our activities improved their familiarity with the technical interview process (*familiarity*, 92% strongly agreed or agreed), allowed them to understand their weaknesses and strengths (*self-evaluation*, 81% strongly agreed or agreed), increased their self-confidence to succeed in a technical interview in the future (*confidence*, 61% strongly agreed or agreed), and are a useful activity that is beneficial for them to succeed in a future technical interview (*usefulness*, 87% strongly agreed or agreed) n-semesters after their participation in our activities. Note that for this analysis, we used data from 375 students who recall participating in our activities and completed all relevant survey questions (N=363). Further descriptive statistics regarding the efficacy of our activities are shown in Figure 2.

We also computed the aggregate efficacy for these metrics by quantifying the 5-point Likert scale (coding "strongly agree" to 4 and "strongly disagree" to 0) and compared this data to our previous study which recorded similar metrics from 256 students who participated in our activities and provided this data right after their participation in Fall 2020 [14]. Right after their participation, students reported that our activities improved their *familiarity*, with an average score of $\mu_{f_i} = 3.46$ on a scale of 0 to 4. In contrast, the students n-semesters after the activity reported a slightly lower average score of $\mu_{f_n} = 3.33$. Similarly, with regard to *self-evaluation*, students reported an average score of $\mu_{s_i} = 3.34$ right after the intervention and a mean score of $\mu_{s_n} = 3.09$ n-semesters after their participation. For increasing *confidence*, the average score reported by students immediately after the activity was $\mu_{c_i} = 3.09$ compared

RQ	Metric (Hire Thy Gator Technical Interview exercises ...)	Likert Scale Item				
		strongly agree	somewhat agree	neither agree nor disagree	somewhat disagree	strongly disagree
RQ.B.	increased my familiarity with the technical interview	45%	47%	4%	2%	1%
	allowed me to understand my weaknesses and strengths	40%	41%	10%	6%	3%
	increased my self-confidence to succeed in a technical interview	23%	38%	23%	11%	5%
	are a useful activity that is beneficial for me to succeed in an interview	45%	42%	9%	3%	1%
RQ.C.	prepared me to - participate in subsequent mock interviews	26%	38%	28%	5%	3%
	prepared me to - participate in subsequent individual programming	33%	46%	16%	3%	2%
	prepared me to - apply for actual internships or jobs related to computing	26%	38%	26%	6%	3%
	motivated me to - participate in subsequent mock interviews	21%	33%	29%	13%	5%
	motivated me to - participate in subsequent individual programming	38%	40%	13%	7%	2%
	motivated me to - apply for actual internships or jobs related to computing	30%	34%	23%	9%	4%
RQ.D.	helped me in securing an internship/full-time job	6%	27%	49%	9%	9%

Figure 2: Heatmap of perceived efficacy of our activities among students who recalled participating (N=363)

to $\mu_{c_n} = 2.63$ after n-semesters. Lastly, regarding the activities' *usefulness*, the average Likert scale score reported by students immediately after the activity was $\mu_{u_i} = 3.42$ while the average score n-semesters after their participation was $\mu_{u_n} = 3.25$.

Although these average scores decreased by 0.13 to 0.46 from the time when data were recorded after the intervention to the time when students were asked to recall, three of these metrics, familiarity (3.33), self-evaluation (3.09), and usefulness (3.25) were high on average, indicating that our activities are perceived as important. The last metric, confidence (2.63), showed the steepest decrease in the average score by 0.46 points. This could be attributed to the incidents and hardships that students must have faced to secure employment [13] after their participation in our activities.

4.3 Efficacy regarding subsequent preparation practices & applying behavior (RQ.C.)

The majority of the 363 students who recalled our activities felt that they prepared or motivated them to participate in the subsequent interview practice and apply for internships and jobs (see Figure 2). Regarding *preparation*, 64% students agreed that our activities prepared them for subsequent mock interviews, 79% students agreed that our activities prepared them for subsequent individual technical programming practice, and 64% students agreed that the activities prepared them to apply for internships and jobs. Regarding *motivation*, 54% students agreed that our activities motivated them for subsequent mock interviews, 78% students agreed that our activities motivated them for subsequent individual programming practice, and 64% students felt motivated to apply for internships and jobs. In addition, 82% of the 363 students also reported that they practiced solving interview questions (e.g., Leetcode style) on their own after the activities, 18% students practiced mock interviews with a friend, peer, etc., and 19% of the students practiced solving technical interview questions (e.g., Leetcode style) collaboratively. 16% of the 363 students did not participate in any subsequent prep.

4.4 Efficacy for securing a job (RQ.D.)

4.4.1 Quantitative Results. We received mixed responses regarding the efficacy of our activities in helping students secure an internship or a full-time job (see Figure 2). Of the 363 students who recalled completing our activities, 49% (n=179), neither agreed nor disagreed that our activities helped them secure employment. Only 6% of the 363 students strongly agreed (n=22) and 27% students agreed (n=99). 9% of students somewhat disagreed (n=32) and 9% of students strongly disagreed (n=31).

4.4.2 Qualitative Findings. We received responses from 363 students who remembered participating in our activities regarding "*What role did mock interviews play in helping you to secure an internship or a full-time job?*". Of these, 16 responses were discarded due to responses such as "N/A" or off-topic responses. The remaining responses (N=347) were coded into 456 total codes or 29 unique codes. These 29 codes were further abstracted into three themes. Note that we perform frequency analysis by counting distinct students in each code/theme and some student responses fell into more than one theme and hence the aggregate counts may not add to 100%.

Derived value (71%). Student responses in this theme (310 codes from 248 of the 347 students, 71%) described that our activities were useful in preparing them for recruitment process of employment; however, they did not directly attribute that our activities helped them get a job or stated that they have not yet secured an internship or job. Prominent codes in this theme include promoting awareness of the process (n=155 students), practicing technical interviews (n=42), building self-confidence (n=33), fostering self-evaluation (n=21), preparing for interviews (n=19), encouraging subsequent preparation (n=17), and gaining new skills (n=10).

Regarding awareness, students described that they felt more informed on the format of the interview, what to expect in a technical interview and from the interviewer, how to explain their thought process, and what they need to do to excel in the interviews (such as thinking before answering a question, asking follow-up questions from an interviewer, practicing more problems, etc.). For example, S396 stated that they, *"have not technically secured an internship as of today, but the HTG activities provided strong hands-on experience of the process. It certainly made [them] gain a substantial amount of confidence for [their] future technical interviews"*. Similarly, S444 stated that our activities *"prepared [them] with what to expect in a real interview. They helped [them] gauge when to ask questions, [...] and when to clarify or ask for clarification"*. S182, a student who

participated in the activity in Fall 2022, stated that *"At the time [they] hated it, but looking back it was essential as that was [their] first introduction into how interviews for computing jobs work and what is expected in a technical interview"*.

The students reported that our activities helped build their confidence and motivated them to prepare subsequently to secure employment. S108, reported that *"the mock interviews gave [them] a bit more confidence in [their] programming abilities and made [them] motivated to do extra practice (leetcode, codechef, hackerrank, etc.)"*. S404 described that our activities "*made it far more clear the standard of technical interviews, they feel easy to shrug off until [one] actually perform one, and in doing so it makes [one] realize many areas of critique. And so for [them] it not only helped motivate [them] to work on [their] lacking areas, but also made it far more urgent of a matter and something [they] prioritized further*". S498 explained that *"Hire Thy Gator exercises did not explicitly help [them] secure an internship however they did help [them] learn how to prepare for a technical interview by practicing using Leetcode problems"*.

The students also described that our activities helped them practice or prepare for technical interviews to improve their technical or professional skills. S410 stated that our activities *"help [them] prepare a lot about soft skills such as coherence as well as technical skills such as preparing for a technical interview and how to properly express [themselves] while coding by providing a safe place to practice and gain feedback from [their] peers"*. Some students (n=21) also mentioned that our activities encouraged them to reflect on their strengths and weaknesses related to interview preparation. For instance, S174 stated that *"the coding aspect helped [them] realize which areas of CS [they are] not familiar with, and therefore, which types of problems they should practice"* and S27 noted that *"The exercise helped open [their] eyes to how much [they] need to prepare"*.

Limited, unclear, or no role (39%). Students responses in this theme (139 codes from 134 of the 347 students, 39%) described that our activities played a limited role or had no role in them securing an internship/job. Some students attributed this limited role to not having applied for internships (n=8), not being invited to any technical interview (n=2), having a poor experience in our activity due to an unprepared interviewer (n=5), not securing an internship (n=5), or because of them applying to jobs in non-technical fields or computing roles which did not require coding interviews but rather behavioral questions (n=13). For instance, S170 stated that the role of our activities in them securing employment is *"none so far, as [they] have not acquired an internship or full-time job"*. S284 described the role as *"none, [as they are] going to work in the Networking/Cybersecurity Engineering field and [their] past interviews did not include coding as they were not strictly programming roles where [they] interviewed"*. Similarly, S517 stated that they *"have not used [our activities], since [they] have not had to interview for any software-related jobs (only EE jobs)"*. S341 commented that our activities "*have not yet helped [them]. [They] have applied to many positions (around 200+), but have not yet gotten an interview*".

Other students made general comments without attributing the limited role to our activities but explaining that they did not apply for a job (n=3) or did not secure an interview (n=12) or internship (n=34). The latter students often described our activities as useful (similar to the last theme) and indicated that our activities have yet to play a role in them securing employment. S454 stated that *"[they] have not completed a real technical interview yet"* and S447 reported that they *"have not secured an internship yet, but [they] remember the mock interview gave [them] a little bit more confidence about [their] thought process"*. S283 described that *"[they] have not applied yet but [the activities] gave [them] a little bit of experience"*.

Five students were uncertain about the role of activities in securing employment. For instance, S355 noted that *"[they] have yet to participate in a technical interview for this hiring season, so they are unsure"*. Two students stated that they already had a job and prior experience, and hence did not know about the role of our activities, and two students reported that much more practice on technical problems is necessary in order to secure a job. A student response belonging to the latter, S146, stated that they *"think much more preparation is needed in addition to mock interviews, which [they] did AFTER the DSA one and then in Enterprise SWE [they] did the interview after preparing on [their] own and securing an internship"*.

Positive outcome (2%). Seven of the 347 students (2%) reported that our activities helped them clear technical interviews (n=2) or secure a internship (n=5) in companies such as Microsoft, Verizon, etc. For instance, S166 noted, that our activities "*helped [them] practice talking out loud while solving coding problem. [...] and helped [them] secure a software engineering internship with JPMorganChase*". Similarly, S23 stated that "*[HTG activities] helped [them] prepare for career fair and the Grace Hopper conference in which [they] had to interview with recruiters, and ultimately ended up receiving an internship*". S259 noted that our activities "*gave [them] a feel for how it was during the real thing, it was quite accurate. [They were] able to ace [their] first ever technicals and get an internship at Microsoft*".

5 DISCUSSION AND CONCLUSION

In conclusion, we present a retrospective evaluation of our technical interview activities, adding empirical results regarding our activities' efficacy to the computing education research literature. These results provide valuable insights into the role of our activities in supporting students' readiness for computing internships and jobs. Although our activities were perceived as beneficial, most of the students reported that our activities alone limit their ability to secure an internship or full-time job, and additional preparation is needed to secure employment. This suggests that while our activities are effective as preparatory tools, they must be supplemented by broader exposure to more extensive practice resources. Nevertheless, our activities increased student self-confidence, improved their familiarity with the process, provided opportunities for self-assessment, and motivated and prepared students to subsequently prepare for employment opportunities, thus promoting the development of metacognitive [16] and professional skills in students. Since our activities require minimal changes in course workflows, we recommend other instructors introduce these activities, especially in DSA courses, given the overlap with the course content.

Our work also provides baseline data for researchers or practitioners who develop similar activities or courses to prepare students for technical interviews in the future. This data is self-reported and may introduce biases, such as over- or underestimating the activities' impact. In the future, more careful experiments can be designed to assess the causal efficacy of our activities.

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