Are You One of Us?: Current Hiring Practices Suggest the Potential for Class Biases in Large Tech Companies

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To better understand how we can broaden participation in computing, this exploratory study examines the interview process for elite internships at established technology companies. Through conducting 36 interviews with evaluators at technology companies, we find that in addition to technical competence, evaluators often assess internship applicants based on explicit and implicit signals of industrial fit, organizational fit, and individual fit. These evaluative criteria are reminiscent of prior literature linking biases in hiring to social class background. By reflecting on how our findings relate to previous studies, we suggest that evaluators' assessments of fit are potentially linked to social class background, and this might be an invisible factor contributing to hiring biases at technology companies. Given that hiring only culturally similar employees can have negative individual, organizational, and societal consequences, we propose strategies for evaluators to broaden their evaluation perspectives and to enact inclusive interviewing practices. We conclude with a call for further research on the role of social class background in the hiring process.

CCS Concepts: • **Social and professional topics** → Cultural characteristics, Employment issues.

Additional Key Words and Phrases: Technology companies; evaluators; internship applications; hiring; social class background

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1 INTRODUCTION

Large technology companies often express that they care about hiring a diverse workforce. Their various education and mentoring initiatives that aim at broadening participation in computing—such as scholarships [28] and diversity mentoring programs [1,14,22,35]—suggest that these companies are willing to dedicate time and resources into developing a diverse workforce. Additionally, technology companies are actively institutionalizing diversity and inclusion training for all employees in an attempt to achieve more diverse hiring, [13,21]. These training programs are often designed to help evaluators recognize their unconscious biases around gender, race, and sexual orientation. These initiatives suggest the clear desire of technology companies to expand the pool of qualified applicants for elite jobs in the technology industry.

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However, such efforts in education, mentoring, and networking have not yet translated into a diverse technology workforce. The Center for Employment Equity at the University of Massachusetts-Amherst reports that most technology companies still have very few women in technical and executive positions and have less than 5% Black and Hispanic employees [48]. Despite the apparent desires of technology companies to broaden participation in computing and their investments in the hiring pipeline for STEM, these companies continue to face a diversity problem.

The disconnect between the formal diversity programs employed at these companies and the homogeneity of their current workforce is not entirely surprising. Training programs are relatively new, and education and mentoring initiatives aimed at undergraduate students and youths will take some time to realize results [50]. These caveats aside, scholars have shown that even for companies with the best of intentions, the hiring process is often rife with unexamined and systematic bias [18,38].

Our exploratory study sets the stage for a deeper understanding of the potential systemic biases in the interview process of large technology companies. Specifically, we provide insight into the subjective criteria that evaluators (interviewers, hiring managers, and hiring committee members) use to assess Ph.D. level internship applicants for elite user experience (UX) research positions. In other words, this study addresses the research question: “How do evaluators at technology companies assess applicants?” Through conducting semi-structured interviews with 36 evaluators at established technology companies, we find that in addition to technical skills, evaluators prioritize applicants’ ability to signal fit with the industry, organization, and individuals around them. In particular, evaluators judge applicants’ oral communication, written materials, social connections, and presentation of self during their interviews.

After collecting the data, we then reflect on our inductive findings through the lens of sociological and management literature on social class background and hiring [8,31,40,49]. Through this exercise of matching inductive empirical findings to pre-established theoretical constructs, we find that even though our study was not designed to directly examine the role of social class background in interview evaluations, evaluators’ assessments of industrial, organizational, and individual fit may have socioeconomic dimensions. In linking our findings with broader insights from scholarship on familial and educational socialization as well as hiring [8,31,40,49], we describe how applicants’ class-based norms—such as help-seeking behaviors, social and extracurricular engagement, and self-presentation styles—can potentially create advantages for applicants from class-privileged upbringings in demonstrating evaluators’ desired fit. In line with the work of prominent scholars on social class [19,31], we define “social class” as a group of people with similar educational levels, occupational attainments, and income brackets. We use the terms “upper-middle-class person” or “class-privileged person” to refer to an individual who has at least a master’s degree and has a professional or managerial occupation that provides an average salary of more than \$130,000 per year [19,29,31].

Employees of technology companies shape the design and development of large-scale collaboration technologies. Thus, potential systemic biases in hiring could affect the CSCW community’s overarching goals of creating inclusive technologies. In sum, this paper provides two contributions to the CSCW community. First, we shed light on evaluators’ perspectives and interviewing practices for large technology companies, and we explain why current practices may lead to systemic social class biases in hiring. Second, as many evaluators are also active CSCW community members, we propose ways for evaluators to broaden their evaluative measures of fit to promote inclusive interviewing practices. Given that we did not directly examine the links

between evaluators' assessments and social class background, we conclude with a call for scholars to further explore the hiring process of technology companies and the ways in which social class background might influence this process.

2 RELATED WORK

There is a long history of research in ACM and HCI communities on hiring in the technology industry. Specifically, two distinct research streams highlight the role of scholarship in better understanding the hiring practices of employers.

2.1 Hiring in the technology industry

ACM scholars have long argued that employers view technical expertise and "soft skills" (such as teamwork, problem-solving, listening, time management, etc.) as equally important in hiring [3,15,32]. These findings hold up across numerous studies and methods: surveys, interviews, and focus groups with IT professionals [1]; surveys of information systems managers [32]; and surveys of chief information officers and chief recruiters [15]. Scholars repeatedly found that candidates' soft skills are key drivers in candidate selection [3,15,32]. Prior work has focused on identifying and ranking the kinds of soft skills that employers in the technology industry value in candidates. Scholarship has yet to investigate how such soft skills manifest in the interview process and the subtle ways that evaluators assess competency and "fit." For example, through conducting a mixed-methods study with IT professionals, Bailey and Stefaniak showed that employers are increasingly valuing applicants' communication, problem-solving, and teamwork skills [3]. Like other studies [15,32], these scholars provided a broad definition of each soft skill (e.g., "verbal communication is the ability to truly say what is needed in a clear and concise manner" [3:11]), but they did not examine how evaluators judge these skills (e.g., the signals they use to assess whether an applicant can communicate clearly and concisely).

In general, ACM literature on hiring in the technology industry has framed their studies' implications toward educators in this field [3,15,32]. In discussing their findings, these scholars often proposed ways for educators to teach students the aforementioned highly desired soft skills. Despite educators' efforts to equip students from across backgrounds with the soft skills needed to obtain jobs in the technology industry, recent reports on diversity in the technology workforce showed that not all groups of applicants are equally able to secure employment in this field [25,48]. In particular, the Center for Employment Equity reported that most technology companies have very few marginalized employees, such as those who identify as a woman, African American, and/or Hispanic, in their workforce [48].

Hiring is an interpersonal process that involves both the applicant and the evaluator. In reviewing hiring studies from psychology, sociology, and organizational behavior, Stephens and colleagues asserted that the first step toward reducing hiring biases is to make evaluators' hiring practices visible [44]. While current ACM scholarship has illuminated *what* evaluators at technology companies look for in applicants, it is rare for empirical studies (both inside and beyond ACM) to investigate *how* evaluators assess applicants. Without understanding evaluators' interviewing practices, it is difficult to get a full picture of potential systemic bias in hiring. In describing the subjective and interpersonal dimensions of hiring and linking these practices to the literature on social class bias, this paper provides an investigation of current interviewing

practices. We then link our empirical findings to well-established scholarship on bias and discuss how these links suggest the possibility of systematic bias in hiring.

2.2 CSCW and HCI literature on hiring

While a small stream of CSCW and HCI studies have offered important insights about job recruiting [11,33], there has been a lack of attention to the interviewing practices of evaluators. Job interviews play a critical role in the hiring process of many labor markets. Given that hiring is a fundamentally interpersonal process, evaluators' impressions of applicants during the interviews often outweigh their initial impressions of applicants' resume qualifications [23]. Sociologist Rivera conducted a case study of elite professional service firms, finding that evaluators (e.g., interviewers, hiring managers, and hiring committee members) often had more power than recruiters in shaping hiring outcomes [38]. As such, it is worth investigating evaluators' interviewing perspectives.

Furthermore, with the exception of Chen and colleagues' study, HCI and CSCW employment research has often focused on low-skill labor markets and marginalized groups (e.g., [26,27,33,51]). While it is crucial for researchers to explore how poverty and disadvantage affect employment, inequality is fueled by both marginalization and privilege. Understanding how high-skill labor markets, such as technology companies, hire workers is necessary because high-income earners drive economic inequality [42,43]. Based on the 2018 U.S. Census Bureau data, the Pew Research Center recently reported that the wealthiest 20% of U.S. households earned more than half of the country's total income, contributing to the widening gap between the richest and poorest households [43]. As low and high-skill labor markets have idiosyncratic interviewing practices [5], it is important for scholars to also understand how established technology companies hire high-skill employees [33]. In sum, our research contributes to CSCW and HCI scholarship by focusing on evaluators' perspectives [12] and the interview process of a high-skill labor market, and specifically, technology companies.

3 METHOD

3.1 Data Collection

The initial goal of this study was to understand how evaluators at established technology companies assess merit in their interview process for elite internships. We collected data for this study by interviewing 36 evaluators at Google (10 evaluators), Microsoft (9), Facebook (9), and Amazon (8). All evaluators were full-time user experience (UX) researchers or UX research managers who were involved with interviewing UX research internship applicants at their companies. Apart from serving as an interviewer, some evaluators were also hiring managers (4 evaluators) or hiring committee members (2 evaluators). All evaluators reported having a general understanding of the full hiring process, and the majority of them did not choose their interviewees, as they were not hiring managers.

As all evaluators in our study have completed either a Ph.D. (25 evaluators) or master's degree (11 evaluators), hold a prestigious research position, and are likely to earn more than \$130,000 each year [56], we considered them to be in upper-middle-class positions [19,32]. In terms of evaluators' gender composition, 26 evaluators identified as females and 10 as males. With regard to race, 23 evaluators were White or Caucasian, nine were Asian or Asian American, two were Black or African American, and two were Hispanic or Latinx.

We chose to interview UX research evaluators because personal connections with UX researchers in the technology industry eased our process of recruiting and developing rapport with UX research evaluators. Given that it is often difficult to access elite populations, scholars who study elites have argued that recruiting them through personal contacts is a useful and appropriate method [27,38].

We focused on the hiring process of elite UX research internships because the interns are mostly Ph.D. students and are regularly asked to return as full-time employees after graduating, with average starting salaries in the top 20% of U.S. household incomes. Thus, these internships are an understudied gateway that propel some people into the upper echelons of jobs in the technology industry.

Given that Google, Microsoft, Facebook, and Amazon hire the majority of their UX research interns through recruitment and networking events, workshops, job fairs, and conferences, we recruited participants by reaching out to evaluators attending these recruitment sites. Specifically, the first author attended recruitment events, internship/job preparation workshops, and career fairs that were organized by technology companies and information and computer science student organizations. These recruitment sites were held at an R1 university in Southern California from which technology companies often recruit UX research interns. The first author also attended and recruited evaluators at academic conferences such as CHI and diversity conferences such as the Grace Hopper Celebration. The interviews took place between October 2018 and May 2019 at the location of participants' choosing such as public seating areas, coffee shops, and video conference calls.

In order to delve into the topics that were most salient to participants, we conducted semi-structured interviews that were guided by a predefined but evolving set of questions. Interviews typically lasted about 30 minutes (ranging from 25 to 35 minutes). We chose this time frame because 30 minutes is a standard meeting duration for workers at large technology companies, and it is considered very generous given our interviewees' busy schedules. Examples of interview questions for evaluators include: "If you could think back to the last three internship applicants you interviewed, what qualities and characteristics did you look for in a successful applicant?"; "How did you know if a candidate had those qualities and characteristics?"; and "If a Ph.D. student were to ask you for advice on how to best prepare for an upcoming internship interview at your company, what would you tell them?" When participants gave general answers, we probed further to ask for concrete examples. For instance, when participants stated that they looked for candidates with "good communication skills," we asked the follow-up questions: "Can you give an example of what you mean by good communication skills? How do you identify good communications skills in a person?" New questions emerged in the course of interviewing when interviewees brought up a word or practice that we did not anticipate in our initial protocol. Examples include: "Can you give an example of research 'impact'?" and "In your opinion, what role do referrals play in the interview process?"

Given that discrimination or social class bias in the interview process of technology companies was not the focus of this research at the outset, we did not directly ask participants about their preferences and biases based on social categories (e.g., gender, race, and social class background) in their hiring evaluations. Rather, social class background emerged as a construct of interest *after* we had completed our interviews and were conducting data analysis. We refer to this study as "exploratory" because it was an inductive process of interviewing evaluators to get a sense of their perspectives; we did not conduct the study with a theoretical lens or hypothesis in

mind. In the spirit of inductive exploration, we followed the themes brought up by evaluators themselves. Participants emphasized the social and interpersonal dimensions of hiring and did not bring up the technological aspects of conducting interviews. As such, our interviews did not focus on the role of technology in the interview process. Although the study interviews were relatively short in duration, the scope of questions was confined to evaluators' assessments of applicants. We began hearing repeated and similar comments after 28 interviews. We continued to interview to make sure that nothing else of import emerged. In our final eight interviews, we realized that new data were repetitive of previously collected data and that we had reached data saturation [24].

3.2 Data Analysis

We analyzed the interview data by using inductive thematic analysis and conducting several rounds of coding [6]. As we were interested in understanding how evaluators assessed applicants, we first generated descriptive codes that captured applicant attitudes, behaviors, experiences, and skills that evaluators focused on during the interview process. Examples of initial codes include "research methods," "research outcomes," "research resources and constraints," "referrals," "communication styles," "mannerisms," and "hobbies and interests."

We then transitioned into the process of writing reflective memos, and we realized that all evaluators described academia and the technology industry as different cultural worlds and that they preferred applicants who were able to code-switch from the language and norms of academia to those of industry. To examine how evaluators differentiated industrial research from academic research, we returned to initial codes such as "research outcomes," "research recommendations," and "research resources and constraints," and we analyzed the quotes in greater depth. We noticed that all evaluators favored applicants who expressed their desires and abilities to have "impact" and generate "actionable recommendations" through their research. Our analysis also revealed that evaluators often positively evaluated applicants who appeared to understand what it means to do research in the industry setting in light of the industry's resources and constraints. Based on these observations, we pulled out initial codes that related to the distinction between industrial and academic research to form subthemes such as "focusing on 'impact' and 'actionable recommendations'" and "recognizing the constraints of the industry."

Discovering that the majority of evaluators prioritized applicants who displayed cultural similarities in enacting industrial norms inspired us to explore other forms of valorized, shared culture. In examining the initial code "referrals," we found that evaluators commonly favored applicants with employee referrals because they assumed that colleagues would vouch for applicants who would likely fit well with the organization.

In the next round of coding and analysis, we turned our attention to the ways in which evaluators judged applicants based on their presentation of self during the hiring interviews. When analyzing the initial codes "communication styles," "mannerisms," and "hobbies and interests," we were struck by how evaluators often preferred applicants who were similar to themselves or with whom they would likely be friends. Many evaluators described giving more positive assessments to applicants who appeared to be culturally similar to themselves in terms of tastes, mannerisms, and lifestyle preferences. We then created the subtheme "presentation of self" to house the initial codes related to applicants' self-presentation styles, leisure pursuits, and interests.

In the final round of coding, we saw that shared culture mattered at the industrial, organizational, and individual levels. To explore the role of cultural similarities at each level of analysis, we developed the themes "industrial fit," "organizational fit," and "individual fit." When

reviewing the themes “organizational fit” and “individual fit,” we realized that these themes were similar to the evaluative criteria found in Rivera’s study of elite professional service firms [40]. The ways in which Rivera reflected on how her findings might be tied to social class background inspired us to take a similar approach. Following Rivera’s example, we looked to the literature on social class background to make sense of our themes.

Given this inductive approach and matching of emergent insights with prior literature, we present our findings as follows: after describing each of the evaluative criterion reported by participants (e.g., industrial fit), we explain how studies on social class background *suggest* a potential tie between that particular criterion and social class background.

4 RESULTS

Through conducting an inductive analysis of our interviews with evaluators, we found that evaluators judged applicants in terms of “fit.” In particular, evaluators’ assessments of applicants’ *industrial fit*, *organizational fit*, and *individual fit* critically influenced their reported willingness to hire. Evaluators described knowing if an applicant “fits” through their use of language (in conversations and written materials), social connections, and presentation of self (i.e., reported tastes and personal style).

4.1 Industrial Fit

Across the board, we saw that evaluators sought applicants who display the “right” language and values for the technology industry. Since the vast majority of research interns are hired as Ph.D. students, they are steeped in the culture, linguistic patterns, and values of academia. Technology companies rely on academia to establish a pool of potential applicants with the baseline skills needed to design and execute research studies. However, evaluators generally assumed that academia primarily prepares Ph.D. students to conduct academic research but does not fully equip them with the industry-specific research skills needed in the industry setting. As a result, candidates who seem more likely to succeed in the interview process are those who can distinguish themselves by demonstrating *industrial fit*. This fit is displayed through candidates’ ability to strategically and selectively adopt the language of an “industrial researcher” in their oral communication and written materials.

4.1.1 Industrial Fit: Oral Communication

Focusing on “impact” and “actionable” recommendations. We found that the word “impact” held great resonance for all evaluators at technology companies. To them, having research “impact” did not come from solely conducting basic research but from translating one’s research insights into products (e.g. Facebook Groups or Google Search). Calling upon this term when describing past work and experiences was a key “tell” that an applicant would likely “fit” with the industry. For example, Laia, an evaluator who was previously a full professor at a research university, outlined the main challenge that many Ph.D. students face when applying for industrial internships and jobs:

*The piece that academic researchers often have trouble with is: how do you take that research to the next step? Ultimately, we want to have an **impact** on the world. Writing papers is great, but how do you transfer that to a product team to have a real **impact** on society?¹*

Interviewers often reported looking for candidates who not only talk about their research methods and findings but also discuss the impact of their work. When advising a graduate student intern candidate, George emphasized:

*You should highlight the **impact** that your research has had or can have on products. If you're presenting your academic work, you need to give **actionable** recommendations for industry stakeholders so that they can use your research to make real-world changes.*

Most evaluators also valued applicants who could translate research insights into “actionable recommendations” for product teams. For example, Kara enthusiastically shared what she enjoyed about working in the industry:

*Going back to impact, I love working on research projects in industry because they are **actionable** and not just another set of guidelines. The guidelines from academic research such as best practices and white paper are certainly the foundation on which we build our technologies, but we need things that are **actionable** too.*

Like Kara, many evaluators said that industrial researchers and product teams can leverage academic research findings to understand their product spaces. However, industrial researchers need to be able to translate academic insights into actionable recommendations for their products. For example, when asked for her advice to current graduate students interested in UX research positions, Tegan said:

*What I want you to start thinking about is: if you were in a position to change things, what would you recommend? That's a step that's often missing and that we need to coach people coming out of grad school on. For us on the other side at [the company], **you can do the most beautiful work in the world, but if people don't leave your presentation saying I'm going to change X because of these findings, then what's the point?***

Drawing on her past academic and industrial research experiences, Tegan assumed that graduate students are not expected to think about the ramifications of their studies. Her suggestions to “start thinking” about how they can translate their findings into industry-relevant recommendations illuminated how industrial researchers tend to perceive academics’ cultural norms around knowledge dissemination.

In particular, some industrial researchers expressed that the academic peer-review process does not emphasize how research can be applied to specific products and services. They argued that the process does not train students to articulate their recommendations for “real-world changes.” By contrast, Tegan’s remarks suggested that “the point” of presenting research insights is to enable product teams to make changes, shape product strategies, and prioritize features. Her definitiveness on this point highlighted for applicants the power of using certain words to signal alignment with these priorities.

To understand whether applicants would be able to generate “actionable recommendations,” most evaluators also assessed the kinds of research methods that applicants suggest using when

¹ Emphasis added within the quotation and throughout the paper for clarity.

answering a case study interview question. An example of a typical case study interview question is: “Let’s say that the product team wants to improve the usability of a mobile app. How would you go about designing and conducting a research study if you only had three weeks?” For example, Bethany shared:

*It’s important [for UX research candidates] to get a feel for what methods UX researchers tend to use. The statistics and sample sizes are different, and some methods, like participatory design sessions and cognitive walkthroughs, will help you better understand how to improve the user experience of a tool. It’s not only about doing interviews because the insights might not be really actionable. **Your insights have to be things that engineers and product managers can easily act on.***

Bethany’s comment echoed many that we heard. All evaluators favored applicants who can articulate the kinds of research methods and study designs that are more likely to yield what evaluators considered as actionable recommendations for product teams. Across the board, evaluators judged applicants based on their ability to project the values of the technology industry. In other words, these evaluators primarily perceived applicants who pepper their responses with symbolically-loaded keywords (e.g., impact, actionable, etc.) as a good “fit” with the industry.

Recognizing the industry’s constraints. In addition to using language that suggests an understanding of the importance of impact and actionability, many evaluators focused on applicants’ ability to recognize the constraints of doing research in the technology industry. Specifically, they typically looked for signs that an applicant is aware of the time constraints that industrial researchers face and the potential resources that they can leverage. For example, when evaluating how candidates would address a case study interview question on designing and conducting a usability study in two weeks, Candice explained:

If you’ve done it before, you’ll know that two weeks is a very limited amount of time. You have to prioritize what you’re going to focus on. We’ve noticed that a lot of academics will say, “We’re going to do a, b, c, d, e, f, g.” And you’re like, “They obviously don’t have any real-world experience.” By contrast, somebody with real-world experience will ask, “My first question is, do I have recruiters?” Because they know that recruiting takes a huge chunk of time.

Candice’s response was representative of how interviewers evaluated not only what solutions candidates propose but also *how* they approach a research problem. She explained:

*It’s a way of seeing that they’ve done research in industry before. And that they know that recruiting, transcribing, or pulling relevant participant video clips take a long time, so they’ll ask about the available resources. **That’s a really interesting tell.***

Numerous evaluators emphasized assessing candidates based on whether they appear to know the time constraints of doing research in the technology industry. These evaluators stressed that industrial researchers have to “move fast” to meet the tight deadlines. Evaluators also focused on whether candidates know about the potential resources, such as participant recruiters and transcription services, that they can use to achieve their project goals.

4.1.2 Industrial Fit: Written Materials

The ability to answer interview questions using the “right” language is not the only way for applicants to display industrial fit. Evaluators also noticed *how* candidates craft their application materials because written materials contain rhetorical and stylistic choices that can portray industrial fit. According to our informants, the ability to move away from the conventions of academic communication styles and evoke those of industry is evidenced by applicants’ resumes and presentation slides. For example, Kyle explained how he made sense of resumes during interviews:

*For academia, it’s useful to list all your papers, and you never list any real experiences. But for industry, the papers are less interesting to us. We’re more interested in knowing about the work you did. Did your work have bearing on partnering organizations or stakeholders, or was it an individual project? **Just looking at the resumes themselves can tell you what the frames of applicants are, and we’ll cull applicants that way.***

Kyle’s response reflected how evaluators often focused on what candidates choose to include, exclude, explain, and call attention to in their application materials. They also looked at how candidates frame their prior work experiences and accomplishments in these materials; the same “experience” can be presented in terms of the outcomes and impact of the work or the process and academic deliverables of the research. These quotes suggested that industrial evaluators generally resonated more with the former framing than the latter one.

Olivia further explained, “[Major technology companies] can get up to 2 million applications each year. To get noticed, you want to make sure that your resume has the right language.” She went on:

*Having someone in industry look at your resume is really helpful because **the words that you’re used to using are not the words that they [researchers in industry] use.** Go to LinkedIn. Look at the profiles of those with jobs you want so that you can understand the language used and skills emphasized in their positions.*

Most evaluators believed that the timelines and priorities of academics are distinct from those in industry. Evaluators contended that whereas academics generally focus on doing research over a long period and write papers as the main output of their work, industrial researchers work on fast-paced, time-sensitive projects that yield actionable recommendations for their stakeholders (e.g. product managers, engineers, and designers). Being able to signal an understanding of these differences suggests that a candidate can “switch frames” between these worlds.

In addition to their resumes, presentation slides are another genre in which an applicant can signal their fit with the industry. According to Matthew:

*Presentation matters a lot. They [technology companies] often make you present your past research projects during the final interview. They want to see what your slides look like. I keep hearing from stakeholders: “Those of you coming from academia use too much jargon and give too many details.” **Stakeholders value the ability to condense your findings to key points and to use clear language.** By contrast, academics want to see everything on the slides, like the methods down to the 20 or 50 pages of appendices. That’s not how it is here.*

Those who are most skilled at strategically employing industrial communication styles will know how to translate their academic experience into the industry setting. The ability to adapt includes developing a resume and presentation slides that are different from those used in

academic settings. In sum, these quotes revealed the power of language and rhetoric to display alignment with the norms, values, and priorities of the industry setting.

4.1.3 *Industrial Fit: Ties to Social Class Background*

In this section, we draw on various studies on social class background and hiring to describe how evaluators' assessments of *industrial fit* are plausibly linked to social class background. Scholars have contended that knowing cultural insiders at a firm—such as friends, classmates, or family members—is pivotal in gaining access to knowledge about the firm's norms and values [40]. It is often assumed that graduate students across social class backgrounds are on a leveled playing field because they are at educational institutions where they attend classes or participate in activities with cultural insiders. However, previous studies have shown that there are social class differences in whom students know and how students leverage their social connections [7,34,49].

To start, scholars have found that social class and racial homophily privileges upper-middle-class white and Asian students in building connections useful for entering labor markets such as the technology industry [34]. Scholars have also shown that parents' class-based parenting styles and beliefs facilitate their children's opportunities to make social connections. Prior research revealed that class-privileged parents often enroll their children and adolescents in a wide variety of time and resource-intensive organized activities [31]. This parenting style is largely motivated by the belief that extracurricular engagement plays a vital role in enabling children to become well-rounded and passionate individuals, which increases their chances of getting into elite colleges and companies [47]. By contrast, prior studies found that less-privileged parents often believe that extracurricular involvement matters less than academic achievements and job-related skills in educational institutions and workplaces [4,46]. As previous research has shown [45], class-privileged parents' beliefs are borne out in their children's higher placements in competitive educational institutions and workplaces.

Scholars have revealed that parents generally transmit their class-based beliefs about the importance of social and extracurricular activities to their children [40,47]. In the context of securing employment, prior research found that applicants from class-privileged upbringing largely focus on connecting with professionals at recruitment events [40]. By contrast, less-privileged applicants generally emphasize their academic achievements and technical interview performances [40]. As such, scholars have asserted that class-privileged applicants' greater stress on extracurricular involvement could give them an advantage over their less-privileged counterparts in having the connections needed to access helpful information and support for the interview process [40,47].

Furthermore, scholarship on social class background has outlined the social class differences in how students leverage their social connections [7,49]. Calarco's ethnographic study of elementary students illuminated that class-privileged parents largely teach their children to feel entitled to get support, coaching them to ask for help when needed [7]. By contrast, working-class parents generally view requests for help as laziness, encouraging their children to solve problems on their own [7]. These contrasting beliefs often lead students to enact different class-based help-seeking behaviors [7]. Scholars have found that students' help-seeking strategies continue to vary along social class lines at the Ph.D. level [49]. Through a nationwide survey of graduate students, Warnock and Appel showed that Ph.D. students from class-privileged upbringing are more likely than their working-class counterparts to ask for advice and support from their peers and family members [49].

Returning to our empirical findings, we see that applicants who learn about the norms and values of technology companies (e.g., focusing on “impact” and “actionable” recommendations) from cultural insiders can potentially increase their chances of displaying industrial fit. Our review of prior studies [7,34,49] suggests that applicants from class-privileged upbringings may be more likely than their less-privileged counterparts to have these valuable connections and to seek advice. These class-privileged applicants appear to be better able to access the knowledge needed to demonstrate desirable cultural signals in their oral communication and written materials.

Additionally, previous literature has shown that class-privileged children often demonstrate familiarity with bureaucratic institutions [44]. As such, they are more likely than their less-privileged counterparts to interrupt and negotiate with teachers to solve problems at school [7,8]. This ability to navigate bureaucratic institutions continues to advantage applicants from class-privileged upbringings during interviews. Many evaluators in our study favored applicants who recognize the constraints and resources of doing research in the technology industry. By linking our findings with the insights from the aforementioned literature [7,8], we see that applicants from class-privileged upbringings could potentially feel more comfortable speaking up about the constraints and negotiating for resources when answering case study interview questions, enabling them to garner positive assessments of industrial fit.

4.2 Organizational Fit

In addition to favoring applicants who “fit” with the values shared by the technology industry, the vast majority of evaluators also reported looking for applicants who signal an alignment with a specific organization’s culture. That is, displaying *organizational fit* involves showing an awareness of the values and people of a particular organization.

4.2.1 Organizational Fit: Social Connections

The ability to demonstrate organizational fit often comes down to whom applicants know. According to evaluators, one way to tell if a candidate might fit with the organization is whether a current employee at the company is willing to vouch for the candidate. Sam linked applicants’ social connections to their ability to signal organizational fit:

*Referrals are important because our employees know about the position and the company culture the best, and **they can vouch for candidates who are qualified and would be a good fit for the company culture.***

Not surprisingly, some evaluators described how the intern candidates who call upon personal and professional connections in the form of a referral can often gain an advantage in the interview process. As Elizabeth said, the “right” social connection can give an applicant preferential treatment:

*I’ve interviewed referred candidates, where my manager or colleague was rooting for them to join the company. Because these candidates have already been vetted by company folks, I feel like **I’m interviewing them for formality’s sake**, which is very **different from weeding out candidates who might not be a good fit.***

Like many evaluators, Sam and Elizabeth equated referrals with endorsements for organizational fit and positive hiring decisions. Elizabeth’s remarks further reflected how some evaluators might be more lenient with referred candidates in their interview assessments; these evaluators largely described such interview cases as a formality rather than a gatekeeping

necessity. Hence, these quotes suggest the power of applicants' social connections, as demonstrated through the use of a referral, in signaling organizational fit and increasing their chances of getting hired.

4.2.2 *Organizational Fit: Ties to Social Class Background*

Our reflections on prior literature suggest that evaluators' assessments of organizational fit through referrals is potentially shaped by social class background [8,30,33,40,46,47,49]. Similar to industrial fit, previous studies have indicated that whom students know and how they use their social connections in the hiring process matter in displaying organizational fit. For example, social class homophily [33] and class-based social and extracurricular engagement [31,40,46,47] influence whether applicants might know employees at the company. Students' class-based help-seeking strategies [8,49] also shape whether they would reach out to these social connections for referrals. Drawing on this scholarship, we assert that beyond accessing information to demonstrate industrial fit, it is plausible that applicants from class-privileged upbringings could more readily secure referrals than their less-privileged counterparts, thus demonstrating stronger signals of organizational fit.

4.3 Individual Fit

We found that many evaluators also took into account the *individual fit* of applicants during their interviews. Unlike industrial and organizational fit, individual fit is the elusive sense that an applicant is somehow similar to the evaluator—someone they would like to befriend and/or with whom they share tastes and lifestyle preferences.

4.3.1 *Individual Fit: Presentation of Self*

Numerous evaluators focused on their impressions of applicants' lifestyle preferences, tastes, and mannerisms when describing their assessments of individual fit. For example, Dan reflected on how self-presentation factored into why he thinks he was hired and how it figures into his current decision-making process,

*Company leaders tend to hire people who fit their personality or culture, and that trickles down. My manager is a cool artsy person. I'm like her, and so she's like "Oh, I want this guy." I tend to hire people like that too. In a company this large, **it's about finding people you like.***

In a similar vein, Kylie said that candidates' appearance and mannerisms matter for hiring outcomes:

*It's like the saying "birds of a feather flock together." From just looking at the interns now, you can see that the **interns tend to speak or behave similarly to their managers.** And what's funny is that sometimes they even dress alike. We do try to hire people who are different from ourselves so that the team is more well-rounded, but sometimes things just pan out this way.*

Here we see how individual fit can be gleaned through applicants' *presentation of self*, that is through their appearance ("does the applicant look like me?"), mannerisms ("does the applicant behave like me?"), resume ("does the applicant have a similar background and experience to me?"), and leisure activities ("does the applicant reference hobbies, athletic activities, life experiences, or personal values that make the applicant seem like 'one of us'?").

We also see how individual fit can be a subjective evaluation criterion that is shaped by evaluators' cultural context and demographic characteristics. As Earnest explained:

*Everyone here is super nice and smart, and hiring managers tend to hire people like that. But different people view “niceness” and “smartness” differently based on their upbringing and backgrounds like gender and race. Like person X can view someone as smart, but person Y can view that same someone as condescending. **The hiring process will always be biased because you’ll tend to hire people who match what you see as nice and competent.***

Earnest’s quote illustrated how evaluators’ impressions of applicants are heavily influenced by how their own cultural worldview defines what it means to be “nice” and “smart.” Without a critical analysis of how these subtle assessments of individual fit might be discriminatory based on demographic characteristics such as social class background, gender, and race, a workforce will tend to replicate itself.

4.3.2 *Individual Fit: Ties to Social Class Background*

Prior studies on social class background and hiring [31,39,44,45] suggest that evaluators’ assessments of *individual fit* reflect socioeconomic homophily. Rivera found that evaluators at elite professional service firms generally prefer applicants who are culturally similar to themselves in terms of their own upper-middle-class values, tastes, and leisure pursuits [39]. Evaluators’ emphasis on shared culture often reproduces social class inequality because class-privileged parents largely socialize their children to present themselves and cultivate interests and values in ways that reflect class-privileged norms [31,44]. This parenting style not only provides a way for class-privileged parents to transmit their values, interests, and tastes to their children, but it also helps their children to enter prestigious educational institutions [45]. Attending elite schools and universities further socializes their children to enact the norms of the dominant culture [44]. Therefore, reviewing these studies reveal that evaluators’ emphasis on applicants’ presentation of self might create advantages for culturally similar applicants. As evaluators at technology companies are mostly class-privileged professionals, this evaluative criterion could potentially tilt the playing field for elite employment toward applicants from class-privileged upbringings.

5 DISCUSSION

Our interview data suggest that in addition to technical competence, *industrial fit*, *organizational fit*, and *individual fit* are commonly used evaluative criteria in hiring interviews at large technology companies. Connecting our findings to prior literature suggests that social class background may creep into these companies’ hiring decisions in a multitude of ways.

While scholars who investigate hiring processes claim that using structured interview procedures and technically demanding evaluations can reduce the biases in evaluators’ interview assessments [37], our study of large technology companies suggests otherwise. When describing industrial fit as an evaluative criterion, evaluators’ comments make clear that they view industrial and academic researchers as living in separate cultural worlds. As such, they describe putting more weight on applicants’ display of industrial norms and values than their domain knowledge, even when assessing applicants’ responses to research-based technical questions (e.g., “How would you design a three-week study?” or “Can you walk me through a research project you conducted?”). Given that evaluators are assessing applicants’ insider knowledge of industrial norms during research-related interviews, applicants’ ability to demonstrate industrial fit is not cultivated through learning in the academic classroom or research setting. Rather, it has to come from coaching by cultural insiders. Linking our study’s findings to previous studies on social class background [8,34] suggests that this evaluative criterion can reproduce social class inequality when having the “right” connections and a willingness to ask them for help are linked to social

class background. Evaluators' assessments of industrial fit thus illustrate how even structured and technically demanding interviews can be subject to bias.

Furthermore, our findings show that evaluators judge applicants' organizational and individual fit through applicants' social connections and presentation of self. Literature suggests that underlying these assessment criteria is the desire to select applicants who seem likely to establish rapport and get along with existing employees [40]. Ethnographic studies of technology companies find that these firms in particular aim to cultivate fun, trusting, and intellectually stimulating work environments in order to increase productivity and to reduce turnover rates [30]. Thus, when evaluators rely on applicants' use of referrals, self-presentation styles, and interests to identify and hire applicants, it is not too much of a stretch to believe that applicants from class-privileged upbringings may be more likely to project the fun-loving but intellectually-intense cultural norms than their less-privileged counterparts. As such, evaluators' assessments of organizational and individual fit may also contribute to implicit bias that favors applicants from class-privileged backgrounds.

5.1 Implications for Interviewing Practices at Large Technology Companies

As described in the Results section above, connecting our empirical findings to broader insights from previous studies [8,31,40,49] reveals that evaluators' assessments of fit may result in social class bias in hiring and contribute to a socially and culturally homogeneous workforce. Prior research shows that shared norms, values, and assumptions at industrial, organizational, and individual levels can help employees to build rapport and communicate with each other [16]. Even so, we agree with scholars who contend that prioritizing cultural similarities without critically examining the potential underlying social class biases can result in negative individual, organizational, and societal consequences [2,36,52].

Favoring applicants from class-privileged backgrounds can hamper the efforts of technology companies to diversify their workforce and to create useful products for people from across various backgrounds [2,36,52]. CSCW scholars also argue that having a class-privileged technology workforce can shape technologies and societies with class-privileged logics of normalcy that, inadvertently or otherwise, exclude the interests and needs of less-privileged people [2,52]. In particular, technologists, who are often from class-privileged backgrounds, tend to design and build for people like themselves [2,52]. These technologists also risk making incorrect, or even harmful, assumptions about people from different social class backgrounds [2].

Given that a lack of awareness of the potential social class biases in hiring at technology companies can negatively affect individuals, organizations, and societies, we call for evaluators to reflect on their own interviewing practices and to enact an inclusive evaluation process. To start, CSCW and management scholars find that evaluators' understanding of potential biases can help minimize actual biases [2,10,20]. Drawing on the research presented here, evaluators could first recognize that current evaluative criteria might favor applicants from class-privileged upbringings. Specifically, applicants' class-based ways of being (e.g., help-seeking behaviors, social and extracurricular engagements, and self-presentation styles) can lead to distinct advantages for some applicants in demonstrating the various forms of fit that evaluators desire.

We also call for evaluators to help reduce potential social class inequality in hiring by expanding the ways in which they measure fit in their interview assessments. Our study finds that evaluators rely on cultural similarities in judging applicants, and our analysis of prior studies [8,31,40,49] suggests that these evaluative criteria can pose advantages for applicants from class-

privileged backgrounds. Yet, management scholars contend that cultural similarities are not the only indicator that the applicant would enhance the current work environment [40]. These scholars find that culturally dissimilar applicants can be inspiring and interesting to colleagues if they have unique experiences and demonstrate resilience in tackling difficult life challenges [40]. As such, evaluators could expand their evaluative measures and recognize that an applicant's unique background and grit in overcoming obstacles are related to their ability to intellectually inspire future colleagues. Given that less-privileged applicants are also likely to meet these criteria, the broadening of evaluators' measures of fit might increase the diversity of new hires.

Lastly, prior studies find that when given access to insider knowledge about a different cultural environment, less-privileged applicants can be adept and resourceful in learning to demonstrate the expected norms of the context [9,40]. For example, Carter's ethnographic study of working-class students shows that these students can learn to traverse the cultural boundaries between class-privileged and working-class environments [9]. Based on the evidence from this body of literature [9,40], we argue that even though less-privileged applicants might not have pre-existing insider knowledge about industrial and organizational norms, their cultural competency in weaving between cultural worlds is of value to the company. Instead of focusing on applicants' possession of insider knowledge, which might provide advantages for applicants from class-privileged backgrounds, evaluators could emphasize applicants' interests, openness, and skills in learning the dominant norms of a new cultural environment.

In sum, our empirical findings lend credence to the idea that evaluators at large technology companies are biased toward applicants from class-privileged upbringings in their assessments of fit (whether consciously or not). By recognizing potential hiring biases and by expanding their evaluative measures to account for the norms and experiences of culturally dissimilar applicants, evaluators could provide potential inroads for applicants from less-privileged backgrounds to secure employment [20,44]. Consequently, these efforts may help technology companies address current challenges in employing a socioeconomically diverse workforce and encourage the development of inclusive products for society writ large.

5.2 Future Directions for this Work

This paper was an inductive examination of evaluators' perspectives on the interview process of large technology companies. As such, our study did not explicitly focus on the role of social class background in our data collection. To untangle the potential relationship between social class background and hiring decisions, we call for future work to advance these insights in five ways.

First, future work should directly address the question of whether and how social class background affects interviewers' assessments of candidates. Studies on how race shapes hiring practices suggest that evaluators' assessments of fit can contribute to systemic racism in hiring [17,37]. Specifically, researchers show that race-based inequalities in social networks could limit racially marginalized applicants' access to insider coaching and referrals—resources that enable applicants to demonstrate industrial and organizational fit [17,37]. These researchers also find that racial homophily in job interviews could lead White and Asian evaluators (i.e., the dominant racial groups in the technology industry) to favor applicants from similar racial backgrounds when assessing their individual fit [17,37]. Future research should thus take an intersectional approach to understanding the roles of social class background and race in the hiring practices of technology companies.

Second, UX researchers' core job responsibilities include collaborating with their cross-functional teammates such as engineers, product managers, and designers. The ability to

communicate effectively across different disciplinary and occupational norms is often prioritized more in UX research roles than in other roles such as engineering. As such, UX research evaluators might be more likely to value applicants' display of fit with the industry and the individuals at the company. Future research could explore how assessments and importance of "fit" might vary across occupations in the technology industry such as software engineering.

Third, future work would benefit from focusing on how hiring managers and hiring committee members at large technology companies—roles that make final hiring decisions—evaluate applicants. While the evaluators in our study heavily influenced the hiring assessments, most of them did not make final hiring decisions because they were not hiring managers or hiring committee members. Exploring the deliberation process of hiring committee members was outside the scope of this study. That said, the extent to which cultural similarities play into hiring committee discussions and final hiring decisions would be a key area for future research.

Fourth, future research could examine the role of cultural similarities in hiring situations where the evaluators have existing ties to their interviewees. The evaluators in our study often did not know the interviewees prior to the interview. Prior research suggests that cultural similarities matter less in interview assessments when the evaluators have already met them in some capacity (e.g., through existing research collaborations or conference events) [44].

Finally, given that the interview process involves both evaluators and applicants, future research could focus on the perspectives of applicants who are applying for positions in the technical field and explore the degree to which applicants are aware of potential social class biases in hiring. Specifically, future work could investigate how applicants prepare for and perform during interviews and whether shared culture and social class background shape their interviewing experiences.

6 CONCLUSION

By studying how evaluators at technology companies assess applicants, this exploratory study investigates the hidden factors that shape evaluators' assessments of interviewee applicants for elite internships. Findings suggest that evaluators select candidates who signal three kinds of "fit" with the organization: applicants who display *industrial fit* by communicating and producing written materials in ways that align with the goals and values of the technology industry; applicants with internal referrals or social connections who will vouch for their *organizational fit*; and applicants who demonstrate *individual fit* with specific evaluators through an alignment of appearance, tastes, and reported leisure pursuits.

Drawing on literature on hiring and social class background, our research suggests the potentially critical role that social class background can play in the interview process of technology companies. As such, we call for HCI and CSCW communities to directly examine the relationships between social class background and hiring and to find ways to minimize the potential for systemic bias in hiring.

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