

### Study Recruitment Plan

This study seeks to explore the opinions of software engineers at elite technology companies about the development of Artificial Intelligence (AI) and its potential applications for use by the military and United States (U.S.) government. Recent months have seen a significant increase in employee activism at major technology companies. Employees have protested what they see as unethical behavior by their leadership and sought to change their company's behavior by signing petitions, challenging company leadership at internal meetings, and even in some cases staging employee walkouts. These trends have directly affected the Defense Department and the U.S. Federal Government. Google dropped its bid on the Joint Enterprise Defense Infrastructure (JEDI) cloud computing contract and declared that it would not renew its contract for Project Maven after an extensive backlash by its employees. Leadership at other companies like Microsoft and Amazon have faced pressure from activist employees over the use of their products by the Department of Defense (DoD) and Department of Homeland Security (DHS).

In order to understand this phenomenon, we seek to recruit study participants who can provide insight into these events and their root causes. To do this, we have six distinct survey populations, each of which sheds light on a different aspect of our research question.

First, we want to explore the opinions of software engineers and other employees working at technology companies with advanced technical capabilities to build AI programs who do not typically take contracts from the DoD. In particular, we will focus on employees of Amazon, Microsoft, and Google. Each of these companies have recruited the best talent available to advance their AI applications and none would be considered traditional defense contractors. We will attempt to survey 500 employees from each of these three companies (for a total of 1,500 survey participants) in order to establish if the individual corporate cultures of these three companies results in differences in opinions on these topics.

Second, we will survey alumni of top ranked computer science schools. In particular, we selected the top 10 ranked computer science departments based on rankings provided by U.S. News and World Report. These include Carnegie Mellon University, the Massachusetts Institute of Technology, Stanford University, the University of California-Berkeley, the University of Illinois Urbana-Champaign, Cornell University, the University of Washington, the Georgia Institute of Technology, Princeton University, and the University of Texas Austin. This population allows us to include the viewpoints of individuals who have the skills and background to develop AI applications but who may have chosen to work at smaller companies or startups instead of the largest and most prominent corporations. We will attempt to survey 500 alumni who have attended any of the schools in this list.

Third, we will survey current students and faculty at the same top-ranked computer science schools. This allows us to explore the viewpoints of people who have not yet entered the workforce but are likely to be the next generation of software engineering talent and individuals shaping the viewpoints of future engineers. We will attempt to survey approximately 100 students or faculty from these schools and hope to conduct focus groups at some of these schools as well.

Fourth, we will survey software engineers who currently work in the Defense Industrial Base to compare their opinions and perspectives with software engineers who do not work on

defense applications. We will select these engineers either based on their current employer, including companies such as Palantir, Lockheed Martin, Northrop Grumman, and other such companies who receive a majority of their revenue from contracts with the Defense Department, or based on their job title and security clearance status. We will attempt to survey approximately 500 software engineers working in the Defense Industrial Base, as well as approximately 200 employees of Palantir specifically.

Fifth, we will survey approximately 1,000 software engineers currently working for any company. We will select these individuals based on their current job title and no other criteria. This will help us establish a baseline to determine how similar or different software engineers of our first survey population (large private sector companies) may be from the overall pool of software engineering talent.

Sixth, we will survey approximately 1,000 individuals drawn from the general U.S. population. This group will allow us to establish a baseline to determine if software engineers, who have a technical background that allows them to understand the details of AI applications, have different ethical concerns and viewpoints compared to a non-technical population. We will select only individuals who are U.S. citizens and over the age of 18. We will utilize an established survey panel to reach this population or will recruit them similarly to our other survey populations by using targeted advertising on sites such as LinkedIn.

Finally, we will survey approximately 200 aeronautical engineers. We consider this population to include anyone currently working with the job title “Aeronautical engineer” or who graduated from a top ranked (based on U.S. News and World Report rankings) aeronautical engineering school with an aeronautical engineering degree.

The following table displays the various populations we will survey

<b>Population Name</b>	<b>Population Criteria</b>	<b>Number of Completed Surveys</b>
Google Employees	People who are currently full time employees of Google	500
Microsoft Employees	People who are currently full time employees of Microsoft	500
Amazon Employees	People who are currently full time employees of Amazon	500
Alumni of top ranked Computer Science departments	People who graduated with a Computer Science degree (Bachelors, Masters, or Doctorate) from a top-10 ranked computer science department	500
Students and faculty of top ranked Computer Science departments	People who are currently a student majoring in computer science at a top-10 ranked computer science department or people who are currently a professor at the same schools	100
Palantir Employees	People who are currently full time employees of Palantir	200

<b>Population Name</b>	<b>Population Criteria</b>	<b>Number of Completed Surveys</b>
Defense Industrial Base Software Engineers	People who are currently full time employees of a Defense Industrial Base company and have the job title ‘software engineer’	500
Software Engineers	People who currently have the job title ‘software engineer’; they may work at any kind of company	1000
US population	US citizens who are older than 18 years old	1000
Aerospace Engineers	People who graduated with a Aerospace Engineering degree (Bachelors, Masters, or Doctorate) from a top-10 ranked aerospace engineering department	200

In order to recruit these study participants, we plan to purchase contact information from companies who have lists of people with these backgrounds. This includes companies such as Dunn and Bradstreet, Monster.com, LinkedIn, and other similar companies. We also may purchase this information from software recruiting firms. We may also purchase targeted advertisements from online sites that collect demographic information about their user’s employer, job title, and the school they attended such as LinkedIn and Facebook. These advertisements will direct their recipients to the website where they can complete the survey. To survey the general U.S. population, we will partner with an established survey panel to ensure our sample is representative of the U.S. population.

If these sources of information are insufficient to gather sufficient numbers of potential survey participants, we may also seek to purchase contact information from college alumni groups and from professional engineering societies such as the Institute of Electrical and Electronics Engineers (IEEE) or the Association for Computing Machinery (ACM).

Additionally, we may seek to convene focus groups to allow us to delve deeper into the reasons behind why these groups hold the opinions that they do. We plan to recruit these focus groups in two ways. First, we may partner with professional conferences aimed at software engineers with a background in skills critical to developing Artificial Intelligence applications. Two conferences associated with ACM, the Special Interest Group on Management of Data (SIGMOD) and Artificial Intelligence, Ethics, and Society (AIES) would be the most promising in terms of finding individuals with this background. However, we will have to determine which conference will be the most appropriate given the timeframe we will be conducting our study in and the unknown period of time that will be required to gain all the needed approvals to begin the study. Second, we will seek to partner with on-campus chapters of the ACM to discuss these issues with college students at top ranked universities. In particular, ACM has two Special Interest Groups (SIGs) that fit our topic: SIGMOD and Special Interest Group on Artificial Intelligence (SIGAI). We will ensure that all participants in these focus groups are at least 18 years old to participate. These focus groups will either be held in a private location, such as a hotel conference room, or virtually over a phone call or a conferencing tool (Microsoft Teams). Focus group members will be asked to keep their discussions confidential and not to discuss information about themselves or others that they would consider very private or sensitive.