**Google Engineering Practicum Essay Questions**

***1. How were you first introduced to CS? How have you continued to develop your technical skills and seek additional exposure to the field?***

I attended The Girls’ Middle School, an all-girls private school that emphasized STEM education. Every year, all students take Computer Science classes, and I found that I really enjoyed the problem solving process. This encouraged me to continue with Computer Science through high school, where I took an introductory class and the AP Computer Science class in Java (the only CS classes available at my high school). I also attended several women’s technical conferences with my mother, who is a software engineer. Now attending Macalester College, I have continued to explore the world of CS. I have built upon my enthusiasm for technology by engaging myself in CS courses. I also have become involved in the Women in STEM program and have been paired with a senior mentor who is a Computer Science major. We meet frequently to discuss how we see ourselves fitting into the field of CS in the future. These meetings then led me to become involved in Mac Hack, which is the software development organization at Macalester. I am hoping to discover if software development is the right career for me.

***2. Tell us about a time you’ve used your strongest coding language. Please go into detail about how you used this technical language. If talking about a group project, be specific about your role in the final product. (Examples can include projects, coursework, competitions, websites, previous internships, etc.)***

In my AP Computer Science class, I used Java to implement a predictor for movie ratings, a project inspired by the Netflix prize competition from several years ago. We were given a partial data set about movies and users and asked to predict how a given user would rate a movie based on their previous ratings and the movie information. I read input from XML data and converted it to inputs for classes such as Movie and User. I then used loops to extract several pieces of information from the data. I used data caching for the average rating of the movies to make the program more efficient so it would be under the runtime limit for the calculation. To make my predictions, I averaged several relevant pieces of information: the average rating for the movie and the average ratings that user had given to movies based on genre, time period, and movies in general. I used this information to predict their rating. My teacher had a contest to see whose program gave the most accurate predictions when compared to the complete data set. I won a prize for being in the top 3.

***3. At Google, we believe that a diversity of perspectives, ideas, and cultures leads to the creation of better products and services. Tell us about your background and experiences and how they make you unique.***

I have always been a positive person who loves to learn. At The Girls’ Middle School, with only 53 other girls in my class, I learned to have a growth mindset and strengthened my love of learning for the sake of learning. I went on to high school, and, after initially becoming too focused on grades without learning from my mistakes, I regained this mindset. It helped in my volleyball career. I started playing much later than most girls, but I still managed to improve my skills quickly and play on competitive teams. In the beginning, I struggled to get playing time, but I used this to make me better. I learned to always maintain a positive attitude, instead of getting defeated. I now compete on Macalester’s varsity volleyball team, pursuing a passion. Macalester is a small liberal arts college far from home, but I have learned how to continue expanding my world-view, meeting people from all over the world. My mindset and fortitude distinguish me. I have learned mental toughness and perspective in my life. I have learned how to not be fazed, and remain positive and supportive of others around me in challenging circumstances.

***4. Please list the technical courses you'll be taking next semester. If you haven't registered for classes yet, please list the courses you plan on taking.***

I haven’t registered yet, but I plan to take:

COMP 221 - ALGORITHM DESIGN AND ANALYSIS

or

COMP 225 - SOFTWARE DESIGN AND DEVELOPMENT

and

MATH 279 - DISCRETE MATHEMATICS

***5. Please list any clubs and/or organizations that you participate in.***

On the Macalester campus I participate in:

Macalester NCAA Women’s Volleyball Team

Women in Science and Math

Mac Hack

Little Scots Mentorship Program

Macalester Jewish Organization

Macalester Gaming Society