**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 the 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 worked with a senior mentor who is a Computer Science major. The meetings 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.  What is your strongest programming language? How much experience do you have using the language? 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.)***

My strongest programming language is Java. I’ve worked with Java since my high school Computer Science classes. In my college Object Oriented Programming and Data Structures course, I worked on a group project to implement a music recognition algorithm in Java. We were given an algorithm, pseudocode and some base classes to use. There were challenges along the way, mainly in understanding the concepts that we were using and how to implement them. I was able to understand and explain to my partner the “chunking” of sounds by time slice and frequency in the song, and how they were used to get key points and add to our HashMap. Then additionally, understanding how a longer group of chunks in a row in time would increase the likelihood of a song match. Working with a partner gave me the opportunity to practice pair programming, and I found that I was able to describe what I was doing and my thinking while I was coding. It helped both of us understand the code better, especially through these challenges, and figure out how to fix several bugs. We spent the week before the project was due working every evening on debugging. There were several persistent problems that we were able to figure out, and once we did that, it worked perfectly! It was very rewarding to test the project with actual songs and see it working, and recognizing them every time.

***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 here 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 225 - SOFTWARE DESIGN AND DEVELOPMENT

COMP 240 - COMPUTER SYSTEMS ORGANIZATION

MATH 236 - LINEAR ALGEBRA

***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

Macalester Software Development Organization

Little Scots Mentorship Program

Macalester Jewish Organization

Macalester Gaming Society

Macalester Musical Theatre Organization

Macalester Juggling Club (pending approval)