<ENTER NAME HERE>

123 Main Ave,

New Brunswick, NJ 08901

April 11, 2017

Mrs. Amy Qu

Software Engineer & College Liaison

Google

76 9th Ave

New York, NY 10011

Dear Mrs. Qu:

I hope that you are doing well. My name is <NAME>, and I am a software engineer attending your alma mater, Rutgers University. I am currently a member of a team of students at Rutgers University named “Women Who Code” (WECode) that aims to improve the enrollment and retention of women in tech. While the tech industry is a lucrative field, it has one of the worst gender gaps with regards to women of any industry. According to the United States Equal Employment Opportunity Commission, women in tech are underrepresented by 12% when compared to all other industries. Researchers such as Sarah-Jane Leslie write that women are deterred from entry starting in Middle/High School. Rosemary Edzie from the University of Nebraska explains in a study that confidence gaps due to gender norms, a lack of resources, and limited support networks are the root cause of why girls aged 12-17 do not pursue higher tech fields. One particularly bad area is the Freehold Regional School District in New Jersey, of which less than 1% of female graduates pursue tech. However, afterschool computer science learning programs for middle/high school women, like Girls Who Code, have seen success in providing education to over 11,000 young women, raising the interest rate of computer science by 32% and maintaining a net budget surplus of $6 million. As such, the plan of this project is to replicate the infrastructure and success of programs such as Girls Who Code in order to motivate and empower the female students at FRSD to pursue computer science. This is done through an afterschool 2-hour mentorship program over the academic year, hosted at local schools/libraries to teach introductory computer science by experienced mentors. The price of this plan is about $7500. We are seeking funding for this project through the Google Educational Research Grant, for use in future expansion across FRSD communities. Modi Kamla et. al from the Girl Scout Research Institute write in a report that afterschool programs such as this are the key to ensuring that young women do not fall behind in the tech surge, and are able to access opportunities on the same level as their male peers. The endemic problems that deter women from computer science, such as poor confidence, a lack of resources, and no role models are all mitigated or solved in part by this program.

Sincerely,

<NAME>

Women Who Code Organizer

“A Proposal to Improve the Enrollment and Retention of Women in Computer Science”

Submitted by <NAME>

Mrs. Amy Qu

Software Engineer & College Liaison

Google

76 9th Ave

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April 11, 2017

Scientific and Technical Writing; Sarah Hlubik

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Abstract

The tech industry is a lucrative field. However, it has one of the worst gender gaps with regards to women of any industry. According to the United States Equal Employment Opportunity Commission, women in tech are underrepresented by 12% when compared to all other industries. Researchers such as Sarah-Jane Leslie write that women are deterred from entry starts in middle/high school. Rosemary Edzie from the University of Nebraska explains in a study that confidence gaps due to gender norms, a lack of resources, and limited support networks are the root cause of why girls aged 12-17 do not pursue higher tech fields. One particularly bad area is the Freehold Regional School District in New Jersey, of which less than 1% of female graduates pursue tech. However, afterschool computer science learning programs for middle/high school women, like Girls Who Code, have seen success in providing education to over 11,000 young women, raising the interest rate of computer science by 32% and maintaining a net budget surplus of $6 million. As such, the plan of this project is to replicate the infrastructure and success of programs such as Girls Who Code in order to motivate and empower the female students at FRSD to pursue computer science. This is done through an afterschool 2-hour mentorship program over the academic year, hosted at local schools/libraries to teach introductory computer science by experienced mentors. The price of this plan is about $7500. Funding will be provided in full through the $250,000 Google Educational Research Grant.

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Appendix

[1] Professor Leslie conducts a meta-study compiled from academics of 30 disciplines in STEM. She reports that “belief scores”, or the quantity of self-perceived qualifications that an individual possesses for a certain task, are the most important indicator for retention and success of women in any field. Professor Leslie isolates other factors, such as socioeconomic status and race, to discover that this lack of confidence is the strongest explanation why women do not pursue educational paths or careers in STEM. (Sarah-Jane Leslie, et al., 2015, p. 263-265).

[2] Rosemary L. Edzie from the University of Nebraska-Lincoln describes that the lack of women in computer science and STEM is a “national crisis. She surveys thousands of educators, students, and researchers and compiles their results into a cohesive analysis. The report concludes that mentorship opportunities, higher numbers of female educators and role models, community events that improve morale to pursue career paths, and networking reverse the effect of gender inequality (Rosemary L. Edzie, 2014, p. 20-23).

[3] William Gaudelli from the University of Central Florida gives a nuanced perspective on teaching young students about technology and CSRF. He writes that teachers and mentors must be flexible and adapt to new trends within the tech community. He concludes that industry professionals and older college mentors might have an edge due to their daily use of resources such as coding languages, frameworks, and community networking (Gaudelli, 2006, p. 110-114).

[4] Ellen Spertus from the MIT Artificial Intelligence Laboratory Technical Report (AITR) conducted a national study of over 60 educational institutions, 6 developmental psychologists, and hundreds of women in the field to determine why there are so few women in the tech industry. Her research noted that the cultural biases against women pursuing careers in IT/CSRF are deeply rooted in societal and educational institutions (Spertus, 1991, p. 1).

[5] Trae Vassallo and colleagues from the Women in Tech initiative explain that Fowler’s experiences are not outliers (Vassallo et. al, 2017). Their findings gather insight from hundreds of women within the Silicon Valley tech community. The results of their survey are detailed in Figure 1.

[6] Kamla Modi and colleagues from the Girl Scout Research Institute provide what is likely the most startling statistic on female retention from grade-school to post-secondary education and beyond – 74% of high school girls across the United States are interested in fields related to IT/CSRF, but only 20% enter the tech industry (Modi et. al, 2012, p. 2). Further results from the national survey of young women in middle/high-school are compiled and included in Figure 2. These results compare answers between female students who are interested in STEM, female students who are not interested in STEM (NON-STEM), and the percentage disparity between the two groups.