



Major opportunities for women in cybersecurity professions

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According to Cybersecurity Ventures, there are projected to be 3.5 million job openings in cybersecurity by 2021. Last year, women made up 20 percent of the cybersecurity workforce, which is a jump from 11 percent in 2013. I believe that there need to be more women in STEM (Science, Technology, Engineering, and Math) related fields.

Ada Lovelace was the first computer programmer, and Ida Rhodes designed the first computer for use by the Social Security Administration. Margaret Hamilton wrote the in-flight code for Apollo 11 and the Skylab. More recently, Katie Bouman wrote an algorithm to be able to take a picture of a black hole. These are major advancements in technology thanks to women in male dominated tech fields. More women are needed in tech fields, but especially in cybersecurity.

The underlying issue behind this large gap between women and men in cybersecurity includes problems in perception and education at a young age. Generally speaking, women aren't seen as tech professionals. Girls are taught this at a young age, and this idea is reinforced when they make up such a small overall percentage in the current workforce. Although young girls are exposed to STEM careers, they are not encouraged like their male counterparts to participate in such careers. In order for more women to enter the tech and cyber fields, there needs to be a societal perception shift.

Reasons for women to enter the cybersecurity field can include job security, high pay, scholarships, and incentives, to name a few. Not only does the cyber field need personnel to fill vacancies, but employers are seeking diversity in their workplaces, and more women are expected to be hired in cyber related positions. Because of the high demand and few skilled people to perform cyber related jobs, pay in cybersecurity careers is high. According to CNBC, the average salary for a cyber security professional with a bachelor's degree is \$116,000. There is a plethora of scholarships and incentives for women to join cyber fields as well. All these incentives attract and encourage women to aspire to learn and make a career in cybersecurity.



Women may also want to enter cyber careers because the field of cybersecurity is so intriguing. In this field, every day offers new chances to learn and adapt to situations you encounter. It allows you to grow a compounding knowledge of incidents and patterns in order to respond quickly. Many women are not only intrigued by the fast paced and busy lifestyle, but also confidently making smart decisions, strategizing, and ultimately outsmarting the opposition. The job is about doing good and protecting one's country or company from harmful actors in the digital realm. It is about making a difference, whether it be for local or corporate businesses, NGO's, or Government entities -- everyone needs cybersecurity. Cyber related career paths could use a lot more women and the skills they offer.

Women need to not be intimidated to pursue careers in a male dominated field. To help in that, women need to find inspiration and mentors and network with other women pursuing careers in technology. *Forbes* magazine posted a "50 Top Women in Technology" ranking, and among them were four cyber security leaders from various companies. There are groups like Women in Cybersecurity (WyCyS), where women can band together to help close the gap between women and men in cyber and shift perceptions of women in tech fields. Also, Tech Women Network is an online platform where women can share their skills and find resources to excel in their careers.

Women are already doing great things in technology fields. In the past couple years, women have pushed through the glass ceiling in cyber related fields, obtaining senior positions in cyber related fields. Ann Barron DiCamilo is head of the Department of Homeland Security's U.S. Computer Emergency Readiness Team (US-CERT), Essye Miller is the Department of Defense's Deputy Chief Information Officer for Cybersecurity, and Angela McKay is Microsoft Senior Director of Cybersecurity and Strategy and acted as a senior advisor to a former president. These women pose as inspiration, encouragement, and leadership for other women looking to enter a male dominated field.