Breaking Barriers:

Empowering and Advocating for Women in STEM

GLOBAL HUMAN RIGHTS DEFENCE

www.ghrd.org | www.ghrtv.org

@Global Human Rights Defence

@globalhumanrightsdefence

Interview with Mylène Brown-Coleman

By Tsedenia Gateneh & Jessica Schwarz

GLOBAL HUMAN RIGHTS DEFENCE

TABLE OF Contents

INTRODUCTION

The women's rights team at the Global Human Rights Defence (GHRD) aims to highlight violations in women's rights as well as champion them to increase their implementation globally. The broader themes focused on in this interview report are gender disparity, equal opportunity, and discrimination of girls and women in the fields of science, technology, engineering, and mathematics (STEM) given their historical male dominance and lack of female participation. To gain first-hand experience and insight into women's experiences in education and working in STEM, the women's rights team at GHRD interviewed Mylène Brown-Coleman, a final year Artificial Intelligence student at the Vrije Universiteit Amsterdam (VU Amsterdam). She is deeply committed to her work in the field of Artificial Intelligence, Software Development, and empowering women within Computer Science.

Early in her career, Mylène gained hands-on experience as a Software Testing Intern at Solera. She then took a leap into the data analysis domain, joining Morningstar as a Data Analyst Intern. Her professional journey also led her to Adyen, where she served as a NextGen Desktop Support Engineer, offering technical support and further sharpening her problem-solving skills.

In academia, Mylène has made a significant impact at VU Amsterdam, where she held multiple teaching assistant roles. Through these positions, she had the opportunity to share her insights on Data Structures & Algorithms and Intelligent Systems with fellow students. She is also Vice Chair and co-founder of the diversity committee within her study association and pioneered for the first hackathon for women at a Dutch university. Mylène continued to broaden her experience by securing a position as a Software Engineer Intern at Momentive.ai. Currently, she is applying her AI and software development expertise as an Artificial Intelligence Intern at the City of Amsterdam.

In addition to her rich professional experiences, Mylène has been recognis ed with several honours, including the VGHC EMEA Student Scholarship, the Nutanix Heart Women in Technology Scholarship, and the Generation Google Scholarship. These awards have celebrated her academic prowess, leadership skills, and commitment to community involvement.

Mylène Brown-Coleman's journey paints a picture of a dedicated and ambitious individual making strides in the world of AI and software development. Her consistent growth and contributions to both academia and industry are testaments to her passion and drive in this evolving field.

BACKGROUND ON WOMEN IN STEM

Women's participation in STEM has been limited throughout most of history. Only in recent decades have women been allowed and welcomed into STEM, first in education and then later in employment. Despite significant improvements, there remains a gender imbalance and disparity of women in STEM, be it in education or employment. The numbers are even smaller for women of colour in STEM.

An approximately equal number of girls and boys take maths and science courses during earlier education, but the disparity begins in tertiary education as women are less likely to pursue degrees in STEM fields, with varying degrees of disparity. Upon entering the workplace, women's representation in STEM occupations declines further. Discrimination, stereotypes, lack of support and role models, harassment, prejudice, hostility, condescension and unconscious and systemic bias all constitute social reasons for a lack of female engagement in STEM sectors. These social factors often cause a lack of interest and confidence in women early on during their education. The American Association of University Women's report on women in STEM shows that it is social and environmental factors that contribute to women's underrepresentation in STEM fields (Hill et al, 2010). As such, the first-hand experiences and testimonies of female students in STEM is of great importance in evaluating the current realities in STEM education and addressing existing discriminations so as to break down the barriers to entry and retention for women.

Science benefits from diversity and needs a variety of ideas and perspectives. Underrepresented groups such as women need to be at the table to give their voices and ensure that our scientific and technological advances incorporate the female perspective, otherwise we risk creating a world not suited for women. Thus, we must start with education in bringing more girls and women into STEM.

INTERVIEW

The interview was conducted on July 4th, 2023, in Amsterdam, the Netherlands.

T: Thank you for being here and taking time for the interview with us during writing your thesis. The theme of this interview is women in STEM, specifically in education, as you are a student at Vrije Universiteit in Amsterdam. Can you tell us a bit about yourself, what you study, your academic journey to VU and your motivations to work in this field?

M: My name is Mylène and I am from London. I study Artificial intelligence at the Vrije Universiteit Amsterdam, specifically the intelligence systems track. Essentially, how I got into Artificial Intelligence in particular is because I realised I do not like low-level programming and I hate embedded systems. I specifically hate assembly and I prefer more mathematical and data-oriented aspects of Computer Science which led me down the road of Artificial Intelligence. Also, I like the intersection it can have with psychology, and I am particularly interested in how artificial intelligence can be applied for humanistic reasons which is why I am currently in an internship with the Gemeente Amsterdam. I am working with the Data & Innovation Team on a project which is related to designing a Machine Learning pipeline for an app they are going to create in due course related to extracting information on indoor venue access ability features of different venues in the city.

J: So, it definitely sounds like you lean very heavily into STEM with preferring artificial intelligence over other types of computer science. How exactly did you get into STEM? Was it something you always enjoyed and what were your experiences growing up?

M: Growing up in London, I felt like I came from a household where it was standard for my family. My family thinks with an education first in mind and I have many family members who were already involved with engineering and science. Specifically, my older brother was very involved in engineering; he studied Aerospace Engineering. I had uncles and cousins who had already done other types of engineering and things like that. Because I am the second to last child, I was around a lot of people who were oriented that way and I never had the issue where I was put off science because I was a woman. In my family, it was a very normal thing and very encouraged. It was heavily encouraged. I wouldn't say I was in a predicament where that was the only thing I could choose, but it was very encouraging and left as an option. Also, the school I went to in London had a science-focus. So, from the age of twelve or thirteen, with my school, I went to science competitions and things like that, and we had engineering taster days at different universities. So, from my family to my schooling, there has always been a push to say engineering is an option; science is an option. Not necessarily or specifically computer science though but just that engineering is an option. Computer Science to me, when I was in school, was not something I thought about or ever considered; I was very fascinated with Biology and Chemistry so that's what I gravitated towards in school. However, when I was getting close to finishing my A-Levels, I had decided that I didn't really have the passion for those subjects anymore and so I decided to take a gap year in industry. I went to my sixth form head of year advisor who told me about this programme called a year in industry by the English Engineering Trust and I signed up for that. I had my first one-year internship with a company that designs software for insurance companies. And from that experience and the encouragement from the people I worked with in that team, I was inspired to go in the direction of computer science specifically.

J: So, it sounds like you've had a lot of role models and mentors growing up who encouraged you to pursue STEM. Do you feel like that is typically the case for women and specifically women of colour?

M: I think encouragement to be involved in STEM is a different question to being involved in Computer Science as a whole. I feel like there is a gender disparity according to the type of STEM subject you study. What I notice at the VU at least, is if you study Mathematics or Chemistry for example, you are more likely to see a much more proportioned population among students based on gender. But when it comes to Computer Science, things become more skewed towards men. There was a lot of encouragement from people in my childhood for being involved in STEM in general, but Computer Science was not really something many people knew about or were interested in just because no one in the family or social circle was involved in it. So, for me, encouragement for computer science came from practical experience and meeting people already in those roles. I was lucky enough there were a lot of men who encouraged me to get involved because they didn't have enough girls involved in the industry in the UK so they said it was something I should consider and something I could do, and so that is what inspired me in particular.

J: We wanted to ask as female students in STEM if there are any programmes at your university specifically that support or promote women in STEM?

M: Since I started in 2020, my classmate, Isabella Venancia Gardner, and I have basically founded a diversity committee for our study association called STORM. Obviously, because it's for the STORM study association it is very specific to Computer Science, Artificial Intelligence, mathematics and informatics. However, there is a larger umbrella that has been started by some other students which is a women's STEM cohort and has also collaborated with us on some things. As of 2020, there are a lot of things going on at the VU to encourage women in STEM. In our committee, we have had outreach projects to different primary and middle schools in Amsterdam, specifically targeting areas where children are less likely to enrol in Computer Science and Artificial intelligence and to get them to consider the Dutch technology track when they start high school. So, we've had a lot of outreach projects, programming lessons with the kids, mentorship programmes and things of that nature which we started recently.

J: That all sounds like incredible work. Do you mind telling us a bit about your industry experience and how you navigated that as a woman in STEM?

M: I have had a lot of jobs, both STEM-related and not. My STEM-related experiences started when I left sixth form, and I had my first internship as a software testing intern in Hertfordshire and through that I was designing test cases for the software they had. In that role, it was mainly manual testing,

so I wasn't programming, but I basically learned Java based on that experience and before I went to university. And because I enjoyed it so much, I decided to stay there for two years and then switch my academic profile away from something biology or chemistry related to something physics or mathematics related so I could get into the computer science degree. While I was doing that course, I got into an internship as a data analyst intern at Morningstar Inc. and I worked there for a year as well. Essentially, they are a technology company that provides data solutions for the financial stock market so, most of my internship experience is in financial technology. It's only recently that I have got more humanistic roles or worked in companies that design technology that is more human-oriented rather than financial technology-oriented. But most of my profile is in software testing and data analytic roles. Last year, I was a software engineering intern at a company called Momentive.ai as a survey monkey to get feedback from customers about certain products. I worked with their machine learning team as well, last year. Now I am an Artificial Intelligence intern with the Gemeente Amsterdam as of the past seven months where I am working on building machine learning pipelines. I would say my industry experience ranges from software testing to data analytics to now more machine learning, engineering data science roles because I am having to build pipelines myself.

T: I know you're part of the hackathon, and I have attended one of your events at the VU. Could you please tell us about the hackathon and share your experience?

M: Yes, as I mentioned before, I'm the Vice Chair of the Diversity Committee of my study association. This year, we organised two events. The first event, held in collaboration with Booking.com, was a Woman in STEM Day in January. We invited female students from various universities in Amsterdam to experience what it's like to work at Booking.com. The second event was the second edition of Hack-4Her.

Unlike last year, when only VU Amsterdam female students were allowed to attend Hack4Her, this year we opened it up to all students in the Netherlands. We had participants from Groningen, Eindhoven, Delft, Maastricht, and other places across the country. The hackathon took place from June 2nd to June 24th, 2023. It was more than just a hackathon; it was a retreat. Alongside the hacking sessions, we organised workshops on diversity and inclusion, lectures by VU professors on the history of women in Computer Science and talks by law professors who specialise in EU technology laws and algorithmic bias in law. Additionally, Booking.com staff provided lectures on the technical interviewing processes. We also arranged study sessions where any student, regardless of gender, could attend. These sessions were facilitated by a variety of experts, including PhD students, teaching assistants from VU, and data scientists and engineers from Booking.com. Students could seek assistance with their thesis or assignments and network with each other, as well as with individuals from Booking.com and other backgrounds. It was a diverse range of learning opportunities and experiences, fostering connections and knowledge-sharing among participants.

J: So, STEM is painted as something quite male dominated, at times a bit scary, unknown territory to women? Have you faced any challenges as a woman navigating the stem?

M: I feel like most of the challenges that I have faced while navigating STEM as a woman would be in the context of trying to make changes in demographics. As I mentioned earlier, I'm heavily involved in my community. Personally, I have faced incidents of vandalization on posters we made for the hackathon last year, along with ridicule and hate messages. We also encountered people trying to disrupt our events. I have received comments being said about me and my classmates, suggesting that the nature of our events is discriminatory against men and as bad as racism. These are the challenges directly related to my community that I have faced. In terms of being a student in academia and trying to navigate through it, I consider myself fortunate to have diversity officers in the Computer Science department who I know personally and who are very supportive of our efforts. Personally, I make it a mission to advocate for myself, and my outspoken nature often makes boys think twice before saying anything to my face.

Another challenge I face I guess would be imposter syndrome, but I believe I'm not the only one experiencing it. There have been moments, especially during my internships, where I've thought, "Wow, I've succeeded and obtained a great opportunity that others don't have. And I'm like wow, really, how did I get this opportunity?" But I think to get myself through those challenges, I rely on friends and mentors for support, which helps me realise that I deserve to be where I am. Pouring a lot of energy into the committee and the hackathon also helps me stay calm because it allows me to see the insecurities in other students who are similar to me, particularly other girls. It enables me to reflect on myself and recognise that the reason I'm doing all of this is not just for myself but also for others who can see what I'm doing and feel that it's okay to get involved and have a voice in this field.

I feel that compared to other sciences, Computer Science can be very off-putting because people believe you need to be a particular type of person to be able to do it and get through it. The variations and different types of people aren't widely publicised, and there's a lot of gatekeeping by men, unnecessarily making things more complicated. My goal is to contribute to demystifying Computer Science and breaking down those barriers. Moreover, when I learned about the history of Computer Science from my professors, I realised that initially, many women were heavily involved, but their presence diminished after the 1980s. I really want us to get back to that place where a lot of women are involved in this field again.

T: What advice would you give to other girls and women who want to pursue a career in stem?

M: I would say, when someone tries to tell you that you can't do something, just do it anyway. That's what I believe. In the beginning, many people told me that I don't look like I study this subject. They judged me based on my choice of wearing pretty clothes and doing my makeup. But I didn't let that

discourage me. When someone tells you that you don't look like you belong or that something is too hard for you, always find your own way. Even if you are unable to attend a research university due to being on a lower educational track or any other reason, there are still other routes to pursue. University is not the sole path into the industry. There are alternative programs like coding bootcamps and similar options where people with different educational backgrounds can still enter the field. Unfortunately, this information is not widely publicised. It's important to have a diverse range of people not only in terms of race and gender but also in terms of education. Part of the problem we face is that many other demographics don't reach the same educational level in the Netherlands or Europe in general. Consequently, they believe that since they're not following the traditional route, they will never have a chance to break into the industry. However, this is not the only way to succeed, and it's crucial to promote the idea that there are multiple paths available. Apprenticeships and internships are viable options. Personally, I discovered opportunities through internships, not through my school. My school didn't provide much information. Therefore, I encourage you to conduct your own research. Attend programming meetups, where you can meet like-minded individuals who are already in the industry. Speak to them directly because they will provide you with the truth and guide you on the specific steps you need to take to reach your goals, unlike your school teachers who may have limited knowledge.

J: Thank you so much for the interview. That was very eye-opening. Thank you so much for giving us your time.

T: Thank you so much Mylène!

M: Thank you for having me.

REFLECTION

During our interview with Mylène, we had the opportunity to delve into her experiences as a woman navigating the field of STEM. Her story provided valuable perspectives on the importance of encouraging women to pursue STEM fields, the existence of programs supporting women in her university, her industry experiences, and her involvement in organising hackathons and events. Mylène's passion for breaking down barriers and promoting diversity and inclusion in computer science was truly inspiring.

One key takeaway from the interview was the role of mentorship and practical experiences in shaping Mylène's journey in STEM. She highlighted the positive impact of individuals who encouraged her to pursue Computer Science and the importance of meeting people already in the industry. Mylène also discussed various programmes at her university, such as the women's STEM cohort and the diversity committee, which aim to support and promote women in STEM through outreach projects, mentorship programmes, and collaboration with other universities. These initiatives contribute to increasing representation and creating a more inclusive environment.

Mylène shared the challenges she faces, including incidents of vandalism and imposter syndrome, but highlighted her resilience and the support she receives from friends and mentors. She discussed her industry experiences in Software Testing, Data Analytics, and Machine Learning engineering through internships at different companies. Mylène's involvement in organising the Hack4Her hackathon reflected her commitment to empowering others and fostering connections within the STEM community. Her advice for girls and women aspiring to pursue STEM emphasised the importance of perseverance, exploring alternative routes, conducting research, attending meetups, and seeking guidance from professionals in the field.

Overall, the interview with Mylène provided us with valuable insights into experiences and perspectives of a woman navigating STEM. Her passion, determination, and commitment to promoting diversity and inclusion were truly inspiring. We are grateful to have had the opportunity to learn from Mylène and share her story.

Follow Us on
Social Media

www.ghrd.org | www.ghrtv.org
@globalhumanrightsdefence
@globalhumanrightsdefence

GHRTV

Stay updated on
human rights news

www.ghrtv.org
@ghrtv_worldnews

Donate

https://tikkie.me/pay/StichtingGl/q7U797fD5TVKtA8Vx4nieG

GLOBAL HUMAN RIGHTS DEFENCE