

Debugging the Gender Gap: (Re-)entry Initiatives in Emerging Technologies for Women

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ABSTRACT

Studies suggest women dropout of college and leave the workforce due to their family, finances, and military duty. However, these women interested in (re-)entering the tech fields can be the largest untapped talent pool that may fulfill the needs of the future workforce. In this session, five passionate women share their experiences with creating initiatives in emerging technologies for women.

CCS CONCEPTS

Social and professional topics → User characteristics → Gender → Women

KEYWORDS

Nontraditional learners, Women learners, Data Literacy, Cloud Literacy, Returnship, Emerging Technologies

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1 Introduction

The disparity of women in technology field is quite evident. Some areas within tech fields, such as Emerging Technology (EmTech), like cybersecurity, data science, mobile development, machine learning, AI, and cloud computing, are expected to experience increases in job opportunities more quickly than traditional areas [1]. Even though there has been a push towards bringing individuals of marginalized gender and race into tech, one untapped population that is less represented in tech field are women who are interested in (re-)entering the tech field.

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While a variety of solutions are necessary to address the growing workforce needs in the EmTech industry and to attract and retain women in the profession, one novel intervention strategy is the (re-)entry program model [2, 3, and 4]. (Re-)entry programs in academia and returnships within industry help women from all backgrounds interested in EmTech to successfully acquire skills for employability.

Without incorporating (re-)entry initiatives as part of the overall academic program's curriculum, academia will never be able to graduate those who are workforce ready in EmTech fields. And without incorporating (re-)entry programs as part of the overall recruitment strategies in industry, organizations risk ignoring a valuable and largely unexplored source of talent. In addition, diversifying talent pipelines and increasing gender diversity not only addresses labor shortages, but it also fosters innovation and increases competitiveness in the global marketplace.

This panel focuses on identifying the challenges for women to re-enter emerging technology professions and the role of industry-academic relationship in facilitating such initiatives with an intention help the audience understand how to avail them. The panel represents a diverse array of ideas which will help shed light on the impact the existing and potential re-entry initiatives can have on enabling re-entry of women in EmTech profession.

2 Panel Discussion

The panelists each bring a different experience in enabling women to re-enter the EmTech professions: Dr. Billionniere, Dr. Marshall and Dr. Rahman are faculties who can speak to the efforts that faculty members can make toward developing re-entry initiatives, formal and informal, for women. They can also shed lights on how intersectionality of women plays adds on more unique challenges as they navigate the re-entry routes. They will be critical in identifying what sort of industry relationship is lacking in academia to prepare the women interested in re-entering the technology professions. Ms. Forman and also Dr. Marshall are industry leaders who will talk about the existing re-entry programs in different companies, what sort of skills are required by those programs and how women interested in re-entering can prepare for such opportunities. The following are potential questions for the panelists:

- What sort of (re-)entry programs are available across the EmTech fields?

- Do the existing (re-)entry programs prioritize the inclusion of women?
- Do traditional recruitment practices have hidden bias that work against the women's re-entry into the workforce?
- What are the literacy and challenges facing the current workforce in obtaining emerging technology skills?
- What sort of academic re-entry initiatives are available for women interested in returning to EmTech profession?
- Even though the academic re-entry initiatives are well-intentioned, in what ways do they fail, and can industry play a role in making them more successful?
- How can organizations help mitigate the challenges to make it easier to target low-income populations?
- How can the newer and smaller companies start re-entry programs like returnship across the EmTech fields?

3 Bio and Participation Statement of Panelists

All panelists and moderator have made a commitment to participate in this panel session if it is accepted.

Elodie Billionniere

Dr. Billionniere, Associate Professor at Miami Dade College, has helped her college secure over \$2.2 million in federal funding the past three years for STEM and emerging technology education programs as well as a collaborative high-tech learning hub with the aim of providing further opportunities to underrepresented populations to meet local and national workforce needs. With industry partners, such as Amazon Web Services, Dr. Billionniere has been instrumental in the creation of new educational pathways in enterprise cloud computing, which are unique in the state of Florida. She is the lead faculty at her institution for increasing cloud literacy in Miami-Dade county and participates in broadening participation in computer science and information technology through new programs and initiatives. Her leadership and mentoring have been recognized on several occasions with the most recent national award 2019 Educational Leadership – College-Level Promotion of Education by Women of Color in STEM. She holds a Ph.D. in CS from Arizona State University.

Farzana Rahman

Dr. Rahman, Associate Professor at Syracuse University, is an expert in CS education who is passionate about broadening participation in computing, integrating best practices in undergraduate research, and exploring how different pedagogical practices can increase diversity in Computing, especially introductory computing courses. Over the last five years, Dr. Rahman's research has been funded federally and through industry to explore the impact of active learning pedagogy in undergraduate CS courses, effectiveness of online and inverted classrooms, broadening participation of women and underrepresented students in CS courses and programs and investigating effective re-entry strategies for retuning women to re-enter the next generation emerging technology based

academic and professional pathways. Dr. Farzana is the winner of the ABI sponsored NCWIT Extension Services (NCWIT ES-UP) grant, ABI Systers PIO (Pass-It-On) award, and NCWIT educator grant. She holds a Ph.D. in CS from Marquette University.

Brandeis Marshall

Dr. Marshall, CEO of DataedX, is a computer science scholar, educator and strategist. Her work focuses on the racial, gender and socioeconomic impact of data in technology, including designing data science instruction for marginalized communities and assessing the socio-technical implications of BlackTwitter. She participates in increasing data science capabilities, sharing best data practices and broadening participation in computing and data science. Dr. Marshall co-created and co-lead the Data Science Executives program which aimed to increase knowledge of core data science concepts, share data science career pathways for tech Black women professionals at various stages in their careers. She holds a Ph.D. in CS from Rensselaer Polytechnic Institute.

Tami Forman

Ms. Forman, Founding Executive Director of Path Forward, is building this organization from the ground up, working with donors, partners and participants to fulfill the organization's mission. Path Forward is a nonprofit organization that creates mid-career internship programs to ease the transition back to work for women (and men) after taking a break for raising children or other caregiving responsibilities. Path Forward trains HR teams and hiring managers on how to support these programs successfully and provides support to participants to make the experience successful. Ms. Forman spent a decade as a tech marketing executive with data solutions provider, Return Path. Before that she worked at Simon & Schuster and Houghton Mifflin and held senior-level web editorial positions at iVillage and News Corporation. She is passionate about helping women achieve work/life integration, so they can find career success and personal satisfaction

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