

A Disarrayed Network: Coding Help and Resources for BIPOC Technologists
United States (Dallas, Texas)
Hamilton College
Adam Valencia
June 6, 2022 – August 5, 2022

America has an Education Problem and a Technology Opportunity

Low-income students of color pursuing a degrees in computer science, computer engineering, or other technologically oriented majors [technologists] in the United States face numerous hurdles. Amid difficulties in accessing essential resources, they compete for jobs and opportunities that privileged technologists take for granted. As these technologists have more intersectional identities, their space in the tech world seems marginal as “hostile” tech can prevail. One of the hot topics that came out of the pandemic was the idea of the metaverse, a digital platform focused on social connection. Ideas like this became highly popular as they were seen as new modes of living during the pandemic. However, the metaverse is still based on a history of accounting technologies that were essential in modes of capitalism that depended on the fixing of people and place for transactional value. Thus, we are reproducing real life inequities in a digital platform to find a new normal during this pandemic.

Amid the COVID-19 pandemic education, both private and public, was under intense scrutiny as policy and business were put before the health of the student population. As most students are taught online, some students are forced to go back into classes. For some, virtual learning is barely accessible due to intergenerational homes, lack of quiet spaces, limited access to WIFI or high-speed internet, and even caretaking responsibilities. Thus, companies try their best to mitigate this issue through software (eDX, Khan Academy, Google Classroom). Platforms that were meant to supplement education have now transformed to the sole way that students are educated.

This educational transformation demonstrates that consistent advocacy, community efforts, and an increase in accessible resources are necessary to establish equity and preserve peace for all peoples in the field, regardless of ethnicity or income level. Therefore, this project aims to help develop a strong line of equity for education both social and technical. By providing equal access to workshops and projects, I will give marginalized technologists an introductory foundation that was previously absent due to a lack of support from the education sector during the COVID-19 pandemic.

Project Description:

Providing Technologists with Access to Essential Resources:

Through my partnership with CODE2040, a social equity and technology non-profit, the objective of this project is to connect and mobilize a social equity community in tech to dismantle the structural barriers that prevent the full participation and leadership of marginalized people in the innovation community. The program will take place over the course of ten weeks and utilize funds from the grant to help develop workshops, roll out social media campaigns to help outreach for colleges, and gain a stable community of low-income technologists of color in the Dallas Fort-Worth Metroplex (DFW). As a member of this community, I am deeply connected to this problem and am eager to utilize myself to create a more equitable and meaningful future in innovation.

Programming: At the beginning of the program students may not be aware of the many intersections between marginalized problems and technology. I will create, implement, and conduct interactive workshops that will provide students a deeper understanding of how these intersections happen and the problems that occur. This will be accomplished in various ways that include having professional guest speakers talk to the students, looking over contemporary work that discusses how technology has aimed to solve a social problem and failed/succeeded, and lastly through hands-on technical workshops. Holistically designed workshops will address persistent problems such as creating solutions to navigating the nuances of the 4-year college search and application process; and ways in which technology may have inclusive intentions, yet marginalizes certain users based on factors that may seem negligible to software designers. CODE2040 has provided me with an excellent framework and other resources that I will look to when developing my own curriculum. For example, rather than focusing on one group, programs will engage diverse students to recognize their differences and use their technical prowess for something that is meaningful to them. I will culminate the program with a closing presentation where students will pitch an idea for a software or hardware that can help in solving an education, community, or social problem.

Cohort: The incoming cohort will consist of 15-20 first-year students at Dallas community colleges pursuing a degree in technology (i.e., computer science, computer engineering, software engineering). Students will apply through an application assessing their technical and social background, but this is purely for demographic information. CODE2040 has an equitable application process by accepting students not only on their merit but personal dedication to the program. I plan to follow this process. Selected students will be those most committed to engaging with the programs mission. Outreach will occur via social media, promotion through Dallas Community College professors, and word of mouth from students I know attending the various institutions. Two of my Hamilton College peers have agreed to assist remotely with day to day operations to ensure the smooth running of the program.

Location: The workshops will take place at El Centro Community College [ECCC] in Dallas and will be approximately 4 hours a day, 4 days a week. ECCC offers free reservations for their spaces. By hosting the program at ECCC, I will not have to worry about maintenance and physical space costs. Despite the numerous community colleges around Dallas, ECCC is a 2-minute walk from the nearest train station. Therefore, for attending students, transportation would be free through the program by providing subway passes if this is a hurdle that prevents attendance.

COVID-19: Throughout the program we will follow all CDC and local health guidelines to make sure that the components that are in-person are always focused on the health of the cohort. I will also create a full virtual model in the untimely event that COVID-19 poses significant challenges to hold public gatherings.

Expected Outcomes: The results of helping CODE2040 with our outlined objectives can be measured both quantitatively and qualitatively. CODE2040 is known among some of the top tech companies such as Bloomberg, Google, Medium, Desmos, and Zillow. CODE2040 still has a lot of development planned and my program can add an extra sense of direction. We will be able to track students' engagement and education through periodic personal and technical surveys. Since CODE2040's main role is creating a generation of equitable technologists, surveys directly from the students can be a testament to whether or not they feel comfortable in the education they are receiving and what can we as a collective do to fix issues they may bring up. A major goal of this project is seeking marginalized technologists in the DFW community colleges and supplying them with the support, resources, time, education, and funding to have them make a difference in their communities or for themselves. All technical workshops will use the Python language, an industry standard and coding language commonly used in class and interviews. The cohort will also leave having a sense of belonging through their shared experience in the program. This will provide a sense of comfort as they continue their work in a white dominated space.

Personal Foundation, Future Impact and Sustainability

I was born in a disadvantaged community in the Dallas area and have gone on to attend college in New York and have secured a full-time job as a DoorDash software engineer in San Francisco, starting October 2022. I believe I can tie in the best aspects of my experiences to bring young technologists a purely educated and practical view on how to advocate for both themselves and their technology. As I am about to enter my professional career, I have been able to advocate for myself in the technical space through the help of people before me. I want to formalize this process to make something that can reach more students and create a greater impact. My project for peace could provide a strong framework for ECCC to continue my work if they are shown how their space can be used to attract more attention to students seeking a technology degree. My project will also provide CODE2040 with regional data. As they expand their educational and inclusion outreach, this information can be useful in how they approach programming in emerging tech cities. I want to reframe how we teach young people to engage with technology for social equity. This project will have a great impact in my home community too, as a big part of our efforts will concentrate on instilling hope in students and giving them agency to enter a field that continually excludes them. I am a first-generation student who almost didn't attend college due to personal and financial reasons, but I was given a chance. Now that I can develop something with CODE2040, a program I wish I had growing up, I feel that it is my responsibility to do so.

Recommenders:

Darren Strash, Assistant Professor of Computer Science, Hamilton College
Chenyu Wang, Visiting Assistant Professor of Anthropology, Hamilton College