Racial Justice x Technology Policy

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YEAR ONE REPORT

December 2022

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Racial Justice and Tech Policy Program (RJxTP)

First Year Report - December 2022

"The RJxTP initiative has provided the Heller community with a unique opportunity to deepen our understanding of technology and bias through a social policy lens. As a student and researcher, I feel better equipped to make a societal impact as a result of this initiative."
Heller Doctoral Student

I. Executive Summary

The Heller School's inaugural year of the Racial Justice and Tech Policy program has been a resounding success on multiple levels. The Principal Investigator assembled a stellar team of project managers, faculty advisors, and students of color from the doctoral level to the high school level. During Year One, the team has planted a strong and fertile foundation on which to build a sustainable and impactful program at the Heller School. Among the many successes this inaugural year, we are proud of:

1) Creating research opportunities for 23 students of color;
2) Incubating five research projects to investigate algorithmic bias in women's health care, the criminal legal system, mortgage lending, and education;
3) Offering seminars on racial justice and tech policy engaging over 100 students;
4) Establishing a project team of professionals of color including a faculty member, a physician, and a doctoral student whose expertise provided innovative vision and inclusive management to the project;
5) Forming partnerships with several well-respected tech policy experts to provide intellectual and technical support to the project; and
6) Securing buy-in and promoting legitimacy for long-term institutionalization of this project at the Heller School and Brandeis, more broadly.

This first year sets the stage for continuing to promote pathways for people of color to engage in decision-making power to mold technology as well as tech policy. The Heller School's status as one of the top 10 social policy schools in the country makes it well-situated to respond to the increasing threat of magnifying racial injustice through technology by founding a space and mechanisms through which students can explore algorithmic bias and produce new systems and policies to democratize technological infrastructure, access, and impact.

II. Introduction

The Heller School for Social Policy and Management's motto is knowledge advancing social justice. Our Racial Justice x Tech Policy program focuses on raising the knowledge and skills of diverse populations to promote racially just research, work, and technology policy.

Technology transitions have a history of leaving disparate populations behind. This has profound impacts on underserved populations' quality and quantity of life (LE), across generations.

Those benefiting the least from tech advances are:
● Underrepresented in tech-related jobs and
● Overrepresented in the negative effects of technologies (e.g., algorithmic assaults)

Our mission is to counter this narrative, by arming new cohorts of scholars, especially scholars of color about how they can steer research, work, and policies away from discriminatory practices (e.g., algorithm assaults, bias in AI, Big Data, and Machine Learning). Creating an interdisciplinary, multicultural pathway of scholars and tech experts across those traditionally left behind and/or disproportionately negatively impacted by tech.

Toward this end, we developed a three-pronged approach to meet our mission. During the inaugural year of this program, we have made significant advances in all three pillars of our mission.

These pillars are:

1) **Develop a Pathway of Racial Justice x Tech Policy Scholars**: Develop the academic capacity of a pathway of future public policy professionals to address pressing challenges at the intersection of technology and racial justice.
2) **Incubate Scholarship and Policy Proposals:** Facilitating the collaboration of interdisciplinary cross-functional team that can develop new research to advance knowledge on policies to address critical topics related to technology's impact on communities of color (e.g., algorithmic bias). Per the contract, we had originally agreed to develop a lab to incubate research teams, but our learning leads us to facilitating collaboration of research teams is an efficient approach moving forward.
3) **Expand Knowledge on Racial Justice x Tech Policy Through Seminars and Micro-credentials**: Develop and implement professional seminars and micro-credentials at Heller which explore key topics related to technology's impact across racial determinants of inequity (e.g., data privacy and security, algorithmic bias, Artificial Intelligence/Machine Learning, among others) and are made available to scholars across Heller, Brandeis, and the broader community.

Finally, it is important to acknowledge that our inaugural year was executed during the COVID pandemic. As in other institutions of higher education across the country, COVID has created

challenges in terms of pedagogy, participation, and the building of community which, we believe, is central to democratic practices of inclusion and equity.

Highlights From Year One

During Year One, we successfully established this urgent and important project at the Heller School. We have made significant progress in innovating programs in our three pillars which we will discuss below. Some of the year's highlights include:

1. To gage interest in these areas, we tested concepts through five intergenerational research teams investigating algorithmic discriminations/biases in education, mortgage lending, health, and the criminal legal system (as per RJxTP Pillar 2 and Grant Component 2).
2. Conducted two school-wide and global workshops/webinars (as per RJxTP Pillar 1 & 3 and Grant Component 1 & 3).
3. Engaged over 100 students (high school, undergraduate, graduate, and Ph.D. students); 10 faculty, and 9 expert technical professionals to mentor students and advise on project development (as per all RJxTP Pillars and all three Grant Components).
4. Provided research funding for 23 students of color (as per RJxTP Pillar 1 & 2 and Grant Component 1 & 2).
5. Secured commitments to provide technical guidance from three nationally recognized algorithmic bias researchers/policy professionals (as per all RJxTP Pillars and all three Grant Components).
6. Developed productive collaborations with Partners in Health, RAND, iThrive Games, and bridging with Move Up Global (as per all RJxTP Pillars and all three Grant Components).
7. Built a foundation for micro-credentialing (as per RJxTP Pillar 3 and Grant Component 3).
8. Established legitimacy and urgency for a racial justice tech policy track at Brandeis University (as per RJxTP Pillar 1 & 3 and Grant Component 1 & 3).

III.   Context or Scope of Problem

Racial inequality in technology is wide and multifaceted. Every time there is a great leap forward in technology or the industrial revolution, societies are undoubtedly doing better. However, because of the disparate access to technology, it always leaves marginalized populations behind. As an example, progress in closing the inequality gap, which one can use Life Expectancy as an example, always coincides with these great types of leaps forward in technology and the industrial revolution. The inequality is

further compounded by the digital divide, which disproportionately affects low-income communities and communities of color. Now more than ever, with the role of algorithms in everything we do, there is an entrenched contribution to that disparity. Further, algorithms used in many aspects of technology, from facial recognition to predictive policing, are often built on biased data which reflects existing societal inequalities. This can result in a feedback loop that reinforces existing racial disparities.

IV.   Year One Learnings (Pilot Data Analytics)

Racial Justice and Tech Policy – Three Pillars

1) Develop a Pathway of Racial Justice x Tech Policy Scholars (Capacity Building)

Workshops/Webinars

We inaugurated this pillar with a two-day pilot workshop/webinar in March. This workshop, conducted by racial justice tech policy expert Gabrielle Hibbert, was entitled - Racial Justice x Tech Policy 101: Building Foundations and Knowledge of Tech Policy. It was designed to establish a common foundation in the field of algorithmic bias for students, staff, and alumni throughout the university. Given the impacts of COVID, there were 43 participants. The course was fully remote.
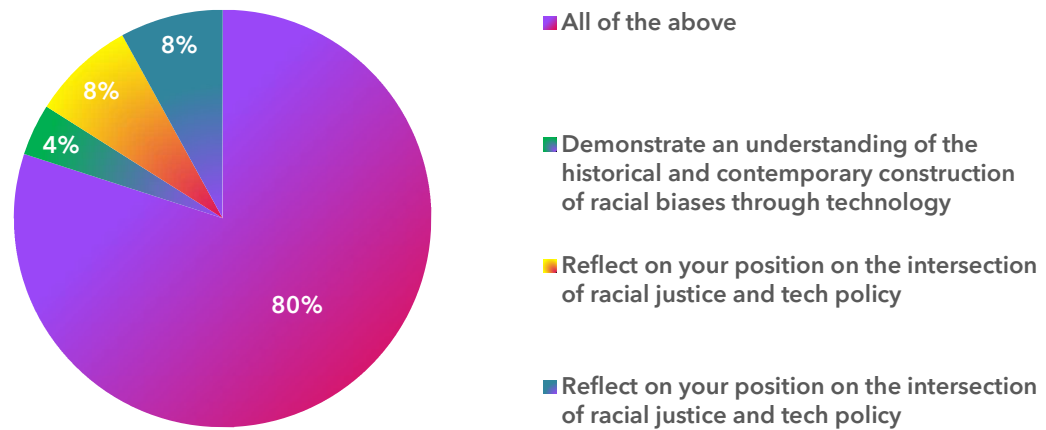
Survey 1 - A mixed-methods survey was presented to participants after the workshop and here are the results:

| Pilot Racial Justice x Tech Policy 101 Workshop Participants Summary		
Number of Participants	43	
Survey Response Rate	58%	
Participants Demographics Summary		
Race/Ethnicity	African American/African/Black	32%
	White/Caucasian	32%
	Asian/ Asian American	20%
	Hispanic/Latinx	8%
	Others	8%
Gender and Sexual Orientation	Female	76%

	Male	12%
	Non-binary /Third Gender/ Others	12%
Age Category (Years) Range (18 – 62) Mean (30)	18-23	21%
	24-32	54%
	>33	25%
Education Level	Graduate and PhD Students	84%
	Precollege, undergraduate, and others	16%

Following are the results of some of the questions that were asked to understand participants' interests and understanding of technology and AI:

1. What is your reason for attending the pro seminar?

- All of the above
- Demonstrate an understanding of the historical and contemporary construction of racial biases through technology
- Reflect on your position on the intersection of racial justice and tech policy
- Reflect on your position on the intersection of racial justice and tech policy

2. How interested are you in Science, Technology, Engineering, Math, AI or Machine Learning, and Racial Justice? Please mark on a scale from 1 (Not interested) to 5 (Very interested).
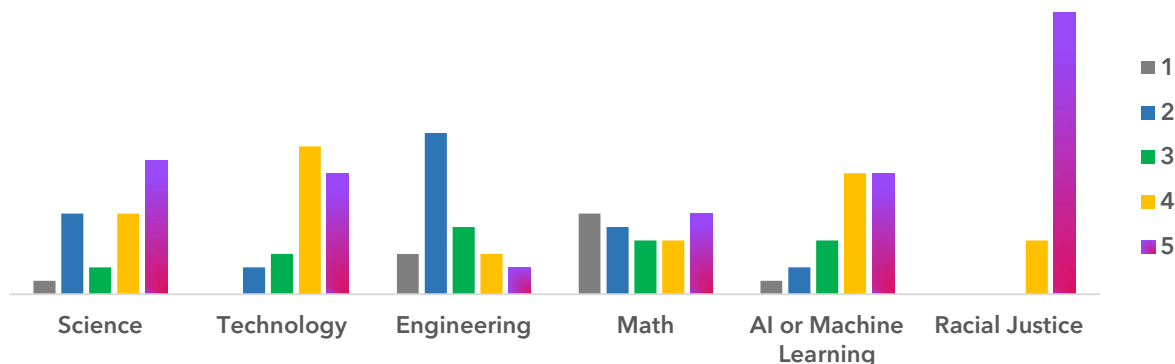
3. How well would you say you understand racial biases in technology? Please mark on a scale from 1 (No understanding) to 5 (Complete understanding).
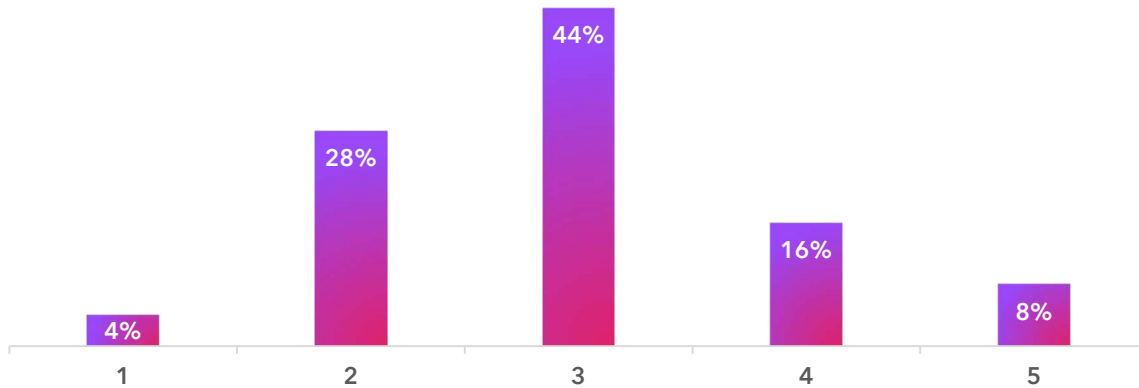
Subsequently, in April, we hosted a global hybrid webinar/workshop with Partners in Health on technology, health, and tech policy. Through a collaborative process with the educational arm of Partners in Health, we designed a 4-hour event that highlighted practitioners in several countries and offered health policy students (most students at the Heller School) to wrestle with both the promise of technology in health delivery as well as the potential disparate and racialized impact of algorithms in this field. This event was a great success with a total of 75 participants including students, faculty, and staff.

Learning from the high interest of the participants and the demand in the workforce, the RJxTP will continue offering relevant pro-seminars, workshops, and webinars as well as firmly establishing the institutionalization of racial justice and tech policy into the programming of the Heller School at Brandeis University.

Expert Tech Policy Advisors

To develop a pathway of Racial Justice x Tech Policy scholars, we set the goal of recruiting expert technical advisors to inform, inspire, mentor, and guide our students. We have been able to execute contracts with Dr. Rhianna Rogers, Dr. Osoba Osonde, and Gabrielle Hibbert. In addition, Dr. Ariel Ludwig, a newly appointed Fellow in Machine Learning, Law, and Racial Justice has joined our project as an expert technical advisor. Dr. Ludwig's expertise lies in tech policy and the criminal legal system. Moreover, we have three Ph.D. students, one graduate student, and one Heller alumni in the RJxTP Expert Technical Advisors team. This is not only

vital to have a diverse team, but the perspective of the students and alumna has been instrumental to help steer the program to actualize its goal.

In addition to advising and mentoring students, which has happened extensively through the RJxTP Awards research process, we invited these tech policy experts to join our recently established Advisory Board. They will provide program design leadership toward building our project capacity. They have been providing feedback on our project structure, programmatic design, planning for long-term sustainability, and identifying new directions in the field so the project continues to stay at the cutting edge of developments in the intersection of AI and policy.

The Advisory Board will also play a role in guiding our knowledge production. They will advise in the development of a curricular arc or scaffolding to ensure students are equipped to become experts in technology policy, suggest student engagement strategies, and offer webinars, lectures, or other educational offerings relative to their expertise in the field.

2) Incubate Scholarship Research Teams and Policy Proposals:

Our first year's main undertaking was the RJxTP Awards. To provide a laboratory for students and faculty to explore the intersections of racial justice and tech policy, we created five intergenerational teams of students and professionals to design research projects. These projects were guided by Heller and UMass Boston faculty as well as from our three partnerships – Partners in Health, Move Up Global, and iThrive Games. The research teams also received technical support from our expert technical advisors over the course of the 6 months this initiative has been unfolding. The technical advisors instructed teams on their research question/s, research design, and potential policy implications. At the RJxTP Awards event in August, the technical advisors served as "judges" by providing feedback to the five research teams in terms of the strengths of their final research design as well as areas to improve on. The research projects included:

TEAM ONE: Data Collection: The Backbone of Racial Bias in Mortgage Lending Algorithms

Policy Area: Housing and Employment/ Workforce

Description: Our research project focuses on racial justice and tech policy issues related to housing and employment/workforce. Given that these are two very broad and large areas we decided to focus more on the housing issues. In addition, based on our review of the needs in

this area, we have focused on the unhoused. Based on our research up until now, we will be focusing on the following main areas of research.

TEAM TWO: Assessment Tool for Equitable Use of Technology to Address Maternal Health Disparities

Policy Area: Health

Description: The purpose of this study is to develop and provide initial validation of an index for the equitable use of technology for maternal health needs. This study employs qualitative methods for the development of a questionnaire including literature review, focus group discussion, expert evaluation, and pre-testing. The study aims to assist healthcare systems in adapting practices that support more equitable use of technology to improve maternal health disparities for pandemic preparedness.

TEAM THREE: Algorithmic Oppression: An Intersectional Anti-Racist Approach to Addressing Birth Inequities in Black Women

Policy Area: Health

Description: Adapting the Sutter Health inequity index, our team will create a maternal inequity index, that would measure inequities in maternal health status and health care, including maternal mental health. The tool would also be used to measure the health experiences of black and brown women at the intersections of age, ethnicity, SES, immigrant status, geography, etc. and at multiple levels of maternity care, including prenatal, intrapartum, and postpartum. Of particular interest are measuring experiences of care, including medical violence and coercion, vicarious and anticipated racism, as has been documented on the IRTH, as well as birthing apps for women of color. This metric can be used to identify and address social racism, clinician bias, and systemic racism resulting from deeply entrenched historically situated patterns of thinking and acting that are often least apparent.

TEAM FOUR: Digital Divide & Educational Access

Policy Area: Education

Description: The TS2 Project aims to address inequitable access to technology and the internet by pairing a US student and a Rwandan Tech catalyst to design and conduct a landscape analysis of the computer skills, facility and systems readiness, and policy. We will also develop a

Digital Divide Scorecard, a standardized tool to assess and visualize current gaps and inform local and global Tech policies and strategies to address the persistent digital divide. Secondly, we will develop and implement an integrated computer literacy curriculum for primary students, teachers, and unemployed HS and University graduates, targeting STEM. As a result, students, teachers, and unemployed graduates will have unlocked potential to pass qualifying exams and contribute to the market demands for a computer-literate workforce.

TEAM FIVE: As They Watch Us: The History of Surveilling Black and Brown Bodies, The Future of Tech, and the Continued Limitations of Freedoms

Policy Area: Carceral System

Description: Our team will be looking at the continued monitoring of black and browns within this country after the Emancipation Proclamation, Old Jim Crow, and the New Jim Code era. We will explore how AI and technology are continuing to monitor black and brown, bind their freedom, and hinder the next generation of young people.

Research Teams Deliverables

All five teams have successfully submitted deliverables ranging from an op-ed published to a full research proposal, abstract, and policy brief.

Pilot Research Teams Demographics Summary		
Number of Pilot Research Teams	5	
Number of Pilot Research Team Members	29	
Race/Ethnicity of Research Team Members (~85% self-identified us marginalized communities) *	African American/African/Black	62%
	White/Caucasian	14%
	Asian/ Asian American	3%
	Hispanic/Latinx	20%
	Others	1%
Gender and Sexual Orientation of Research Team Members	Male	35%
	Female	65%
	Others	0%
Research Team Leads	Male	1

		Female	3
		Others	0
Age (Years) of Research Team Members Range (18 – 63)		18-23	59%
		24-32	24%
		>33	17%
Disciplines		Research & Policy Experts	
		Engineer(s)	
		Precollege, College, Graduate, and PhD Students	
		Physician(s)	
RJxTP Awards Participants Summary			
In-person Participant Registration (Responses)		21	
Zoom Participant Registration (Responses)		44	

Research team members comments during the research presentations:

Researchers were inspired by this 6-month process and the culminating awards event where they showcased their work. The research presentations generated excellent cross-discipline learning and questions. Some student comments include:

"I have an idea to start a company on the work we are doing. My idea is that we come together under one roof where all we will all be working in a different way to change policy."

"With the housing shortage context ranging nationally today, it seems imperative to look at how algorithms that decide who qualifies for different types of mortgage and housing crosses with algorithms for general mortgage. It seems like there is a catch all safety net in alternative housing options which makes it 'ok' to ignore or skip over looking at the bias."

"What were some of the trials and tribulations when it comes to your research and execution? Was it hard as a brown individual to learn half of what you learned when it comes to how we are treated in the hospital?"

"Opening of your presentation was incredibly moving. Appreciate the intersectional lens. Have you looked at state policies or state-based advocacy campaigns? Could be a good place to look for implementation/ evaluation that informs the need of these policies."

"Do the statistics for Black birthing people stem from studies on Cis women? Is there data further looking at Queer and/or Trans Black birthing persons"

"Stunning presentation. As a middle school teacher who has had to teach a civil rights unit to 8th graders in a public school that was grossly lacking, this is such an innovative, intriguing idea. I hope you get to produce this, but if you do, I encourage you to think about some social science questions about how playing the game will affect the players. The tone you have of "Us Vs Them" worries me if it is not considered carefully. Think about how this could change how history and society is taught. Amazing!"?"

"How do we work against the past? How do we convince the white people of today about how the past still affects POC today? How does surveillance counter or work with high levels of crime in Black/Brown communities?"

"I wonder if we can start from a place of strength when discussing Black history. For example, the history of the Moors, Kemetism, etc. instead of starting with Jim Crow, Black laws, etc."

Survey 2 - Results from a mixed-methods survey presented to participants after the RJxTP Awards (Response Rate – 52%):

1. Have RJxTP's research presentations increased your understanding of how algorithmic bias manifests itself?

100%

- Yes
- No
- Unsure

2. In the future, will you be more likely to include algorithmic bias as a variable in your research projects?

27% 73%

- Yes
- No
- Maybe

3. This research competition was the result of a demonstration project. Do you think the Heller School should invest in ways to institutionalize a program in algorithmic bias to train future policymakers?

100%

- Yes
- No
- Maybe
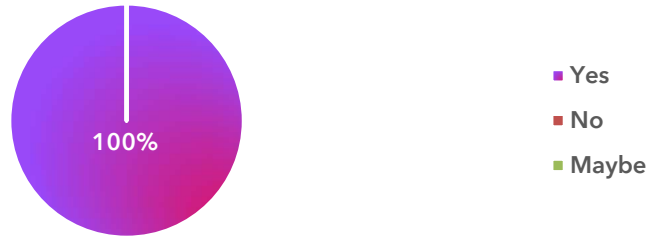
Few participants' feedback and lessons learned after the research presentations:

"Bias is a global issue and tech is at the center of all the social and policy issues"

"I learned how algorithmic bias presents in every facet of human life and has the capacity to irrevocably change the trajectory of our reality as we know it."

"There is still so much to learn about the bias of AI and urgent action is needed."

"I think more conversations with technological experts initiated by the program would help researchers visualize issues better."

Event Pictures:

Moving forward, the RJxTP will facilitate research competitions and policy hackathons that would involve Heller students and external stakeholders. We will also focus on connecting learners and technical experts from all three pillars to create an interdisciplinary and intergenerational collaborative research works and policy briefs.

3) Expand Knowledge on Racial Justice x Tech Policy Through Seminars, Micro credentials, and Certificate Programs:

As knowledge is the key to solving the troubling disparities in the use of technology and its impact on racial justice, the RJxTP focuses on providing the necessary educational tools for students as well as early career and mid-career professionals to be successful in racial justice, technology policy, and overall STEM fields.

The RJxTP team along with Dr. Rhianna Rogers, who is the Director of RAND Center to Advance Racial Equity Policy and an expert in micro credentialing, are working on aligning RJxTP and Heller's missions and developing efficient processes to lay the foundation to establish the RJxTP micro credentials which will be piloted in the following year. These credentials will offer very specific knowledge and skills that are relevant in the workforce to mitigate algorithmic biases and the adverse effects of technology on underrepresented communities. They are being designed to engage students and non-students, such as early-career & mid-career professionals (professional development), alumni with degrees, or those requiring credentials instead of a degree. These credentials will result in digital credentials/badges that will be crucial for employability. Additionally, the RJxTP micro credentials will be a sequence of credentials that can be accumulated over time and can be stackable toward a certificate or a degree.

During year one, the RJxTP worked on forging partnerships with internal and external stakeholders. Following the institutional leadership of the Principal Investigator, the RJxTP team was able to align the mission with the strategic goals. The RJxTP team also received micro credentialing 101 training from Paperclip that bolstered the team's capability to actualize the goals. We are currently working on a curriculum that will meet Industry standards and competency frameworks. Furthermore, to ensure the sustainability of these credentials, labor market analytics is underway and will be completed soon.
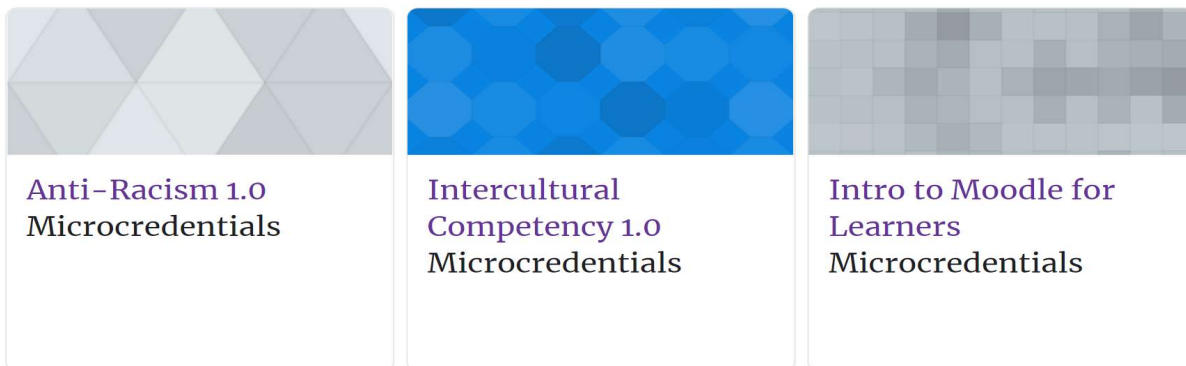
We anticipate piloting a couple of the RJxTP credentials along with RAND Corporation's Intercultural Competency 1.0 and Anti-Racism 1.0 micro-credentials in the coming summer. Moreover, the RJxTP will work on hosting relevant pro-seminars and webinars to advance racial justice and technology policy.

RJxTP Micro Credential Sample Digital Badges and RAND Corporation's Micro-credentials

RJxTP Credentials

CERTIFIED
RJxTP Data Analytics

CERTIFIED
RJxTP Informatics

CERTIFIED
RJxTP AI & ML Anti-Bias

RAND Credentials

Anti-Racism 1.0
Microcredentials

Intercultural
Competency 1.0
Microcredentials

Intro to Moodle for
Learners
Microcredentials

V.   Institutionalization

During our inaugural year, we have made significant progress towards institutionalizing racial justice and tech policy into the programming of the Heller School at Brandeis University. We hired a team of accomplished faculty and racial justice advocates. Through the leadership of the Principal Investigator and her team, we have exceeded the objectives set out for the three pillars at the beginning of the contract year as described above. However, in addition to these programmatic successes, the team has effectively increased capacity and long-term sustainability in the three critical areas: 1) establishing legitimacy; 2) forging partnerships; and 3) building a micro-credential in racial justice and tech policy.

The team has established legitimacy for a racial justice tech policy track at the Heller School. This has been accomplished by securing buy-in from and working with administrators and

faculty at the Heller and Brandeis as a whole. We have successfully argued that developing a tech policy track at the Heller School is a value-added forward-thinking proposition. Key decision-makers now understand the visionary nature of permanently establishing a tech policy track that is embedded in racial and economic equity. The second way we have established legitimacy is by providing research fund opportunities for students and faculty through the RJxTP Awards. Given that research funds are highly sought after and highly competitive to secure, the opportunity to provide research funding to students of color at the high school, undergraduate, and graduate levels have extraordinary weight. We are proud to upend the research funding practices in the academy that disparately and negatively impact scholars of color.

We have also increased capacity and long-term sustainability by forging positive collaborations within the Heller School's multiple degree programs and research centers as well as external organizations. At the Heller School, we have worked with the Master of Public Policy and Doctoral programs as well as the Master of Global Health programs by providing research opportunities for students in those programs. We have also partnered with undergraduate programs to invite their students into research teams. Initiating partnerships with external institutions has been essential in providing students with mentorship from visionary practitioners. We created a partnership with Partners in Health which is a highly respected organization at the Heller School given its health policy focus. As stated above, Partners in Health along with Move Up Global has provided instructional programming as well as mentorship in two of the 5 research teams. Another external organization we partnered with is iThrive Games. This partnership enables us to include youth of color who have been affected by the criminal legal system. The use of gaming design to study the impact of the criminal legal system has been a particularly innovative research project. Finally, these valuable and productive collaborations have also ensured we have expert technical advisors for our student's academic and professional development. Moreover, the RJxTP micro credentials that will be launched soon will feed into the capacity building pillar as they will burgeon a pathway of racial justice and technology policy scholars who will ultimately help balance the extremely homogenous workforce.

VI.   Reflection and Recommendations for Year Two

Building on the lessons from year one, we will build on our approach refining a three-year plan in all three pillars.

Our sample logic model includes:

Pillars	Inputs	Outputs	Outcomes	Impact
Capacity Building	Advisors Students Panelists Partnerships (e.g., algorithmic justice institute, AJI, etc.)	2 Advisory Board Mtgs. 4 ETA Mtgs. 2 Panel Discussions	Finalize strategic plan Increase uptake and recruitment (x% incr. from 2022)	Regional leader in introducing legions of students to the role of algorithmic bias
Innovation Labs	Intergenerational Multicultural Interdisciplinary Teams	1 Adapted RJxTP challenge Competition	Increased KABP Creative ideation	Regional leader in introducing legions of students to ways to counter algorithmic bias across numerous disciplines
Knowledge Production	Prof. of the Practice Guest Lecturers Students	2 Proseminars 7 Consultations with Heller Program Dir.: CPGs & Alt. Credentials	S.M.A.R.T. Increased KABP Alumni exit surveys & workshop and course pre-post surveys	Research to Policy Curriculum that impacts the workplace of graduates

We tested best approaches to develop a prospective plan for the RJxTP because we saw the interest that was generated among students, professors, and administration, and we now have enough data to demonstrate the viability of the Racial Justice x Technology Policy program. We will give the program's strategic development and expansion top priority in year two. We also plan to share additional details in 2023.

The year two work plan is to partner with Program Directors and the Professor of Practice to engage more people in the workshops or micro-credentials to understand for example the challenges of algorithmic bias in every discipline such that: a) they would be eligible for RJxTP certification or b) participate in a weekend competition hackathon or otherwise. Submission of the year two timeline will be available in January 2023. [See Table 1. Sample Logic Model.]

Figure 1. RJxTP Advisory Meeting December 2022

Appendix – Slide Decks from Research Teams

TEAM ONE: [Data Collection: The Backbone of Racial Bias in Mortgage Lending Algorithms](#)

TEAM TWO: [Assessment Tool for Equitable Use of Technology to Address Maternal Health Disparities](#)

TEAM THREE: [Algorithmic Oppression: An Intersectional Anti-Racist Approach to Addressing Birth Inequities in Black Women](#)

TEAM FOUR: [Digital Divide & Educational Access](#)

TEAM FIVE: [As They Watch Us: The History of Surveilling Black and Brown Bodies, The Future of Tech, and the Continued Limitations of Freedoms](#)

RJxTP Micro-credentials Draft Planning Framework: https://docs.google.com/document/d/1e-E9Y9HQ6u7X7rprai34p0rTYR4ibCXO/edit?usp=share_link&ouid=109653886516257995392&rtpof=true&sd=true