

Racial Justice & Technology

A Proposal to the Anti-Racism Tenure-Track Faculty Hiring Program

Cover sheet including name(s) and contact information for proposal lead(s) and names and affiliation for all current faculty engaged in proposal activity

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Rationale for the Proposed Cluster Hire (1000 words)

Computational technologies such as data science, artificial intelligence (AI), and digital fabrication are touted as new enablers of efficiency, control, and objectivity. Tech companies offer facial recognition cameras marketed as accurately identifying criminals. Others sell algorithms purported to be anti-racist: they claim to improve hiring decisions and “level the playing field” for people of color. Governments are using “data-driven” tools to allocate social services. Automotive and agricultural industries hope to solve labor problems through automation. While these computational solutions are understood as addressing pressing challenges, there is growing concern that they **reproduce and accelerate racist exclusions, violence, and exploitation** via what is variously referred to as “surveillance capitalism,” “algorithmic inequality,” and “the new jim code.” Data and algorithms are frequently biased, subject to the same structural racism as our social institutions. Facial recognition technologies are trained on images of white men. The data that informs so-called “predictive policing” is based on racist assumptions about criminality and a legacy of over-policing communities of color. **And our decisions about when to intervene and the solutions we develop are shaped by our racist past and present.** These concerns have inspired exciting new research in technology, design, and policy-making.

A three-faculty cluster in **Racial Justice & Technology** coalesces an emerging **interdisciplinary field of research** that centers structural racism produced and reproduced by information technology, design, and technology policies. It positions Michigan as a leader in this emerging area, with a **particular emphasis on the intersection of racial justice with the domains of data and AI.** The proposed positions will be housed in three schools: the School of Information, the Ford School of Public Policy, and the Stamps School of Art and Design.

We envision each hire as responding to a question:

Need

How can we respond to racism in the structure of computing systems that now shape society?

How can we analyze and counteract racism in policy and technology using the tools of democracy?

How can we design a new generation of artifacts that empower communities of color?

Hire

Professor of Anti-Racist Data Justice
(Information)

Professor of Racial Justice in Technology
Policy (Ford)

Professor of Anti-Racism by Design
(Stamps)

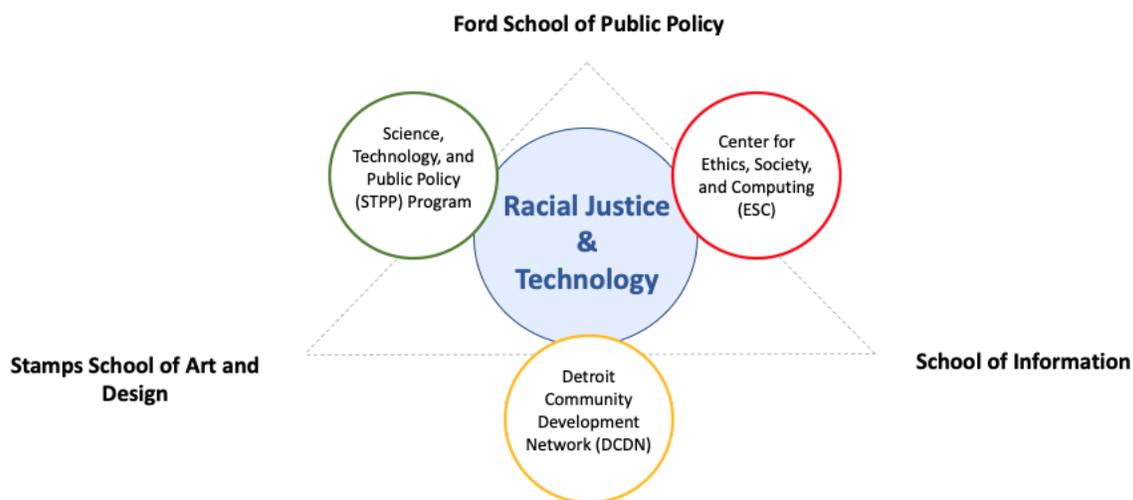
Our strategy is to build on strengths. This cluster builds on faculty excellence and existing collaborations. Michigan's strong reputation in this area rests on the research expertise of the faculty named on the cover sheet. Our cluster differs from similar initiatives through our explicit attention to and collaboration in racial justice in technology design and technology policymaking. **To ensure anti-racism in technology at a structural level, we need transformative research and implementation of improved information analysis, design practices, and public policy formation.**

Hires will be supported by three cross-cutting programs: the **Center for Ethics, Society, and Computing (ESC)** (directed by proposal lead Sandvig), the **Science, Technology, and Public Policy Program (STPP)** (directed by proposal lead Parthasarathy), and a network of Detroit design and innovation projects we refer to as **Detroit Community Development** (represented by proposal lead Eglash).

ESC is at the vanguard of discussions about the intersection of ethics, AI, data, and racial justice. For example, ESC co-led a nearly-unprecedented coalition of 24 campus units to host bestselling author Shoshana Zuboff (Harvard) to speak on justice and technology. ESC's recent lecture by former Google employee Timnit Gebru on the topic of this cluster proposal filled a 1,000-person Zoom webinar to capacity with many participants turned away. **These examples evidence both the timeliness and growing demand for this research domain.**

STPP focuses on equity and justice in technology and science policy. It offers a popular graduate certificate that brings together students from almost every school and college, hosts events with international leaders, and offers **critical expertise on how to develop, implement, and govern technology and science to better serve public interests**. For instance, this includes a collaborative project funded by the national Public Interest Technology University Network, to reconceptualize UM's undergraduate computer science curriculum with equity and justice at its core.

The **Detroit Community Development Network (DCDN)** is our term for an extensive portfolio of faculty projects in community engagement and outreach, as well as two formal UM organizations, the **Detroit Neighborhood Entrepreneurs Project** and **Poverty Solutions**, centered in the Ford School and including partners in Stamps and Information (Dillahunt, Toyama, Hui, and Eglash). Faculty in this network consider our community collaborators and their institutions foundational to this anti-racist work as well. These links bind and support a cross-unit cluster:



Each circle and vertex contributes a facet to the broader problem of anti-racism and technology. Together, the cluster hires will direct the development of courses, research, and public engagement

around four cross-cluster themes:

1. **Racism as violence, surveillance, bias, and exploitation** via technological systems
2. The **implications of data-driven automated decision-making** on government, industry, the environment, and society
3. Addressing and ameliorating racial inequities through **research-driven technology policies and anti-racist policy analysis**
4. The development of **anti-racist integrative design** for computational technologies in the creation of built environments, production processes, and grassroots empowerment

Each of these themes **synergizes with our current research**, e.g.: critical race theory in HCI (Toyama); post/decolonial computing and design (Eglash, Lindtner, Punzalan); racialized processes in tech labor (Dillahunt, Hui, Lindtner); and integration of anti-racism and data justice with built environments (Marshal). Michigan researchers currently examine the impact of data-driven decision making in e.g.: healthcare (Ackerman, Park); algorithms for emotion recognition, supply chain management, insurance, agriculture, and accessibility (Andalibi, Brewer, Lindtner, Sandvig); racialized inequity in education (Garcia) and policing (Schoenebeck). Anti-racist policy analysis will benefit from existing expertise in e.g., transportation equity (Hampshire); data-driven policy and decision making (Green, Hausman, Rohde); equity in innovation policy (Parthasarathy); inequality, race, and HIV/AIDS (Watkins-Hayes); and poverty policy and government provision of social services (Schaefer). Anti-racist integrative design strengthens work on community-centric design, civic design, action research, Black and Native Youth education, entrepreneurship (Dillahunt, Eglash, Haimson, Hui, Tobier); auditing algorithms (Sandvig); design work with incarcerated and marginalized youth and women (Brueckner, Jacobsen); transgender-focused design research (Haimson); and feminist data science and design (Andalibi, Garcia, Lindtner).

Sustainability and Impact (1000 words):

These cluster hires will enjoy a synergy with existing commitments to racial justice **in each unit, and across campus**. A promising feature of this proposal is that it enacts cross-college collaboration for research and public engagement using the vehicle of existing institutional structures that *already* span the university: STPP, ESC, and DCDN.

STPP is housed at Ford--a leading school of public policy nationally. STPP faculty focus their work on equity and justice in technology policy, and the new faculty member would amplify and extend this. For example, STPP's **Technology Assessment Project (TAP) produces evidence-based analyses for policymakers and civil society** analyzing the equity, social, and ethical dimensions of emerging technologies to improve their governance. TAP's 2020 *Cameras in the Classroom* report analyzed the use of facial recognition technology in schools, and concluded with recommendations for its adoption and regulation. Its findings were widely covered by the media. As Associate Director of STPP, the new faculty member could lead TAP analyses, or develop new research and public engagement avenues that could produce new, fruitful collaborations among Ford's STPP faculty but also among affiliates located in almost every school and college.

ESC offers a similar promise. Anti-racist data justice is compelling in many disciplines that work with data, however the School of Information (where ESC is based) is uniquely positioned: It possesses **strength in the scholarship of the critical study of data-driven systems** and faculty experience in collaborating with industry, policymakers, activists, and community leaders to further equitable data futures.

Information's "Data Justice" hire and the entire cluster will enjoy relationships with the faculty named on the cover sheet above who have previously secured substantial external funding for anti-racist research and been named to lists like "The Researchers Working to Make Sure AI is a Force for Good" (*Time*).

Faculty and graduate student research on race, tech, and inequality has won awards and been incorporated into tech platforms that serve millions of people. Research on race and technology has been cited in briefs filed before the US Supreme Court and profiled in *Nature*.

DCDN provides a third cross-campus platform for this cluster. DCDN investigates technology training and opportunities for technology development to support entrepreneurs in Detroit. In parallel, other well-established networks for Detroit engagement by the proposed “anti-racist by design” Stamps faculty member include Poverty Solutions and the forthcoming Detroit Center for Innovation. These initiatives understand **structural racism to be a primary mechanism that drives poverty and inequity across numerous dimensions**, and have already partnered with other units to explicitly fund work across the university to confront and combat structural racism. This commitment to praxis and engagement flows through all partner units, but Stamps faculty have notably developed a STEM-based, graduate program in Integrative Design that is ranked 8th in the nation and emphasizes the combination of design education and social engagement.

In her recent essay on multiple Black faculty hires in her school of design, Dr. Elizabeth Tunstall noted that cluster hires like these are not merely a prophylaxis against tokenism; they are crucial in establishing the needed support to move the academy in anti-racist trajectories. While supporting research is crucial, a key factor for the success of this cluster and true change at the university is **innovative anti-racist curricular planning**.

New “anchor” courses taught across the cluster can be a means through which we transform Michigan. Themed courses with titles like **Anti-Racist Design, Race and Technology Policy**, and **Algorithmic Racism** could serve all partner units and the campus as a whole, featuring the expertise of all hires across multiple courses.

Ford School faculty decided in 2020 that structural racism should be a core competency in the school’s curriculum. New courses taught by cluster faculty would help us achieve this goal. New courses would also serve as electives in the STPP Program, where they would find students who are eager to delve into the intersection between anti-racism, science, and technology. This will yield benefits across campus and particularly for students in technical fields: **73% of the students in this program come from the natural and physical sciences, engineering, public health, and the medical school**. These courses will

provide students with frameworks for analyzing racial injustice in tech and policy and provide tools which they can bring back to their technical work. Students will develop valuable hybrid expertise in both the technical and social dimensions of data and technology.

At Stamps, this proposal ties to several long standing initiatives and requirements. For example, the community engagement requirement is filled by courses in which faculty have **combined community-based research with educational experiences**, and includes buses for ensuring that students can travel to real-world design collaborations in Detroit. The international experience requirement also creates opportunities in anti-racism, opposition to islamophobia, and other ways in which creative disciplines can aid in the transition from white, western predominance to empowering collaborations across spatial and racial divides. At the graduate level, MDes seminars--housed in their own studio with digital fabrication and a digital media studio--have explored the design of VR experiences for raising awareness of the impact of racism, Black "heritage algorithms" in grassroots economics, and related endeavors.

The cluster hire is in-step with Information's focus and current needs, potentially contributing courses to three degree programs where there is strong student interest in this topic. The extremely successful new online Master of Applied Data Science program has built up the School's technical capacity in machine learning and AI, and there is now a need for the School **to complement its growing technical capacity in data science with expertise in the ethical, societal, and cultural processes of data-driven systems design**. Other top programs in data science such as UC Berkeley do not currently have the expertise to bridge anti-racist design, pedagogy, and policy; Michigan can serve as an exemplar. The research focus of Anti-Racist Data Justice is also relevant to other curricular activities, such as the recent initiative to review all syllabi to make them more anti-racist and inclusive, or the School-wide "Race & Tech" reading group.

Evidence of Support for the Work of New Hires (500 words):

UM needs to show these new faculty that we believe that it is not the job of the oppressed to reform the oppressor, and that we recognize our complicity as well as our responsibility to teach and practice antiracism as a collective effort. Our support takes four forms:

Climate: We have carefully reviewed the resources that we can make available to ensure that these hires are welcomed into units with **a supportive climate that is fully behind the aims of this proposal**. As reviewed above, these three schools are dedicated to the anti-racist goals of this proposal and are already interdisciplinary places poised to work across institutional borders.

Commitments of Resources: The schools have identified **specific commitments to the success of these hires**, explained in the accompanying dean's letters. These vary by school, but highlights include extensive discretionary startup and incentive funds, funded GSRA support, and an explicit commitment to protection from service demands that might draw the new faculty away from the work of the cluster, which we view as in itself a significant service to the campus.

Mentoring: In addition to professional development resources available through NCID, WOCAP, and NCFDD, each anti-racism hire within this three-unit collaborative will be assigned a mentor whose research and teaching expertise is centered on anti-racism and DEI to advise them in their professional development. Mentors will be selected in collaboration with the new hires, and will participate in occasional group mentoring sessions with the other new cluster faculty and mentors from the other two units. **We have already identified faculty who will be available to provide a warm welcome for the new hires into cross-unit formal institutions** focused on DEI (e.g. WOCAP), and less formal intellectual supports such as the Decolonizing Education Group. Regarding teaching, the three hires will not only have the opportunity to take advantage of CRLT's resources, but also ensure that their contributions to integrating anti-racism into undergraduate and graduate curricula can be disseminated to others through CRLT (that is to say, a two-way exchange).

A New Collective: We will convene recurring meetings between the three hires, three mentors, and a group of selected allies that introduces the new faculty to campus opportunities and resources, and will serve as a forum for them to discuss how they might work together. We emphasize that the hires themselves will be leading the ideas and decisions--**our role is to deliver resources and connections to bring their ideas to fruition**--but to prepare the grounds for this effort, we have mapped out ways they might create a new research collective that builds on their combined strengths. For instance such a collective might develop a mutually supporting sub-unit using the resources of ESC, STPP, and/or DCDN; a lecture series that brings leading thinkers on racial justice, technology, and policy to UM; and/or a faculty affinity group which works together to develop systematic understandings about racism in tech and seeks to secure external funding for research.