Contact information

Anthonia Carter (aoc29@cornell.edu)

Description of the course of graduate study pursued

I am a fourth-year Ph.D. candidate at Cornell University, studying Information Science, an interdisciplinary field. The Information Science Ph.D. curriculum encompasses critical core course requirements and an external Ph.D. minor to prepare students for scholarly research activity. I have taken Text and Networks, Computational Methods for Information Science Research, Behavior and Information Technology, and Social Research Design and Method courses to expand my knowledge in computation and social science. Additionally, I am pursuing a Ph.D. minor in Data Science. I have taken Numerical Methods for Data Science, Matrix Computations, and Data-Driven Optimization Under Uncertainty to enhance my knowledge of numerical and computational methods. Moreover, I have been conducting independent studies of statistical inference and causal inference to aid me in completing my primary dissertation research.

Years of enrollment at Cornell University: 4 years (2019-present)

Description of general research interests

My work explores the behaviors, cultures, processes, and systems shaping the flow of capital for funding ventures. I propose the concept of "equitable capital allocation" to improve access to financial resources for historically underserved and disadvantaged communities. Equitable access to capital is vital to combat socioeconomic inequalities, but existing capital allocation systems or processes may exacerbate the unequal distribution of funding. My research investigates the underlying mechanisms driving resource/capital allocation to design effective and equitable interventions for increasing funding to historically resource-constrained communities.

My past academic experiences exposed me to diverse methodologies that now contribute to and strengthen my interdisciplinary research. I have conducted qualitative research through semi-structured interviews and workshops to understand how venture capitalists and limited partners frame investment opportunities and how this framing constitutes a source of funding disparities. In my computational coursework, I was introduced to fair machine learning. Specifically, I am interested in designing fair ranking policies for optimizing equitable funding decisions in venture capital. Currently, my main dissertation project takes a systematic approach to uncovering underlying factors that limit the potential of crowdfunding to democratize access to funding.

Research projects that are in process

Project 1a: Investigating mechanisms that drive disparate crowdfunding outcomes

This work focuses on systematically identifying potential sources of disparate funding outcomes on crowdfunding platforms such as Kickstarter. Crowdfunding might be thought of as a way to improve access to capital for new ventures, given that it is more likely to produce a heterogeneous pool of prospective supporters or backers when compared to traditional investors.

In some cases, historically marginalized entrepreneurs (Black entrepreneurs) experience less success on crowdfunding platforms[2,5]. Yet, in other cases, with respect to gender, female entrepreneurs have more favorable crowdfunding outcomes[1,2,4]. However, this body of existing literature does not provide insight into the degree to which disparate crowdfunding outcomes occur at the intersection of multiple marginalized characteristics such as race and gender (e.g., women of color). In the higher education setting, past work has shown that race and gender stereotypes play a role in advancing STEM scholars[3]. Building upon past studies, I am exploring the following questions.

- Does crowdfunding improve access to funding across race and gender?
    - Are Black female founders less likely to have a successful crowdfunding campaign when compared to their White and male counterparts?

In addition to investigating the presence of disparate venture funding decisions, it is also critical to understand the underlying mechanisms that drive these outcomes to design effective interventions that address inequalities. Past research has shown that various factors mediate crowdfunding outcomes when considering differences in entrepreneur characteristics such as race or gender2,3. I focus on the role of race/gender intersectionality, perceived founder market fit, and project complexity on crowdfunding outcomes. I am conducting this empirical work in two parts, using archival data from Kickstarter and conducting online controlled experiments.

Project 1b: Measuring the impact of use of #BlackLivesMatter banners on improving crowdfunding outcomes

Beyond exploring root causes of disparate funding outcomes, I am also interested in studying the effectiveness of existing interventions in combating inequalities. Using the same archival data from Kickstarter from Project 1a, I will be performing difference and differences analysis to answer the following question. Did Kickstarter's use of a #BlackLivesMatter banner on their homepage in response to the murder of George Floyd improve crowdfunding outcomes for Blacks [and Black women]?

Project 2: Tension areas in venture capital hampering innovation in historically marginalized communities

This work investigates a crucial but under examined aspect of the relationship between technology and opportunity for historically marginalized and disadvantaged communities: namely, how the social and organizational processes of venture capital investors shape the kinds of innovation that eventually become mainstream. Mainstream innovation primarily

captures the viewpoints of White males in the global north. Consequently, the perspectives of historically marginalized and disadvantaged communities are largely absent from dominant views of innovation. Since venture capital is a notable source of funding for technology-enabled startup companies, it is critical to study how the social and organizational processes of venture capital (VC) investors shape the kinds of innovation that eventually become widespread. This work qualitatively examines the cultural, social, and behavioral norms and operations within the VC ecosystem shaping the types of innovation receiving funding. This paper maps out the VC landscape extracting themes and areas of tension concerning sources of disparities in VC. These insights are crucial for informing future mechanism designs for equitable capital allocation in driving more funding toward communities of color.

Project 3: Designing Effective Interventions for equitable capital allocation

Building upon my insights from Project 2, I aim to computationally model the portfolio selection process in VC. The expected output of this research will be a theoretical model that quantifies the economic and social impact of equitable portfolio diversification over time.

Dissertation title: Towards Designing Equitable Capital Allocation Interventions

Committee members: Drs. Cristobal Cheyre (chair), Karen Levy, Jon Kleinberg, and Hoda Heidari (external member at Carnegie Mellon)

References:

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2. Cumming, D., Meoli, M., & Vismara, S. (2021). Does equity crowdfunding democratize entrepreneurial finance?. *Small Business Economics*, *56*(2), 533-552.
3. Eaton, A. A., Saunders, J. F., Jacobson, R. K., & West, K. (2020). How gender and race stereotypes impact the advancement of scholars in STEM: Professors' biased evaluations of physics and biology post-doctoral candidates. Sex Roles, 82(3), 127-141.
4. Johnson, M. A., Stevenson, R. M., & Letwin, C. R. (2018). A woman's place is in the… startup! Crowdfunder judgments, implicit bias, and the stereotype content model. *Journal of Business Venturing*, *33*(6), 813-831.
5. Younkin, P., & Kuppuswamy, V. (2018). The colorblind crowd? Founder race and performance in crowdfunding. *Management Science*, *64*(7), 3269-3287.'