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Departmental BPC Plan
Computer Science Department
Brown University

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Effective dates of Plan: 01/26/2022 – 01/26/2024
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1. Context

Brown University is a private, ivy-league research institution located in Providence, Rhode Island. Brown is highly competitive, admitting only 7% of undergraduate applicants. As of fall 2020, 53% of all Brown undergraduates identify as women, and 22% identify as persons from historically underrepresented racial/ethnic groups (HUGs[1]). For the 2020-2021 academic year, 36.8% of Brown CS and joint-CS undergraduate concentrators identify as women, and 11.2% identify as being from HUGs. According to the national 2020 Taulbee survey, 20.9% of students enrolled in a CS bachelors' degree identify as women, and 17.7% identify as being from HUGs. For the 2020-2021 academic year, 26.5% of Brown CS masters students identify as women, and 2.6% identify as being from HUGs. According to the 2020 Taulbee survey 24.8% of students enrolled in a CS Masters' degree identify as women, and 16.2% identify as being from HUGs. For the 2020-2021 academic year, 23.4% of Brown CS PhD students identify as women, and 3.7% identify as being from HUGs. According to the 2020 Taulbee Survey, 23.4% of current CS PhDs identify as women, and 4.6% identify as being from HUGs. Our representation of students from HUGs is below Brown's undergraduate population and the national averages. Additionally, representation for students from HUGs in CS doctoral programs is exceedingly low across the country. Brown CS is not directly involved in the undergraduate admissions process, however, we handle graduate admissions and faculty recruiting, with oversight from the graduate school and the dean of the faculty's office. Brown CS has been participating in the CERP Data Buddies since 2014 to assess experiences of students engaged in the computing community. Brown CS is also engaged in a variety of qualitative and quantitative climate data collection measures in collaboration with nonprofit student-run organizations, the Brown Office of Institutional Equity and Diversity, and the Sheridan Center for Teaching and Learning.

2. Goals

G1: Increase representation of people that identify as women and being from HUGs in our PhD, Masters and faculty application, interview and offer pools, by engaging in 3-5 outreach initiatives each year with partner institutions, other Brown departments, and national organizations.
G2: Develop and implement a longitudinal data research project to analyze undergraduate course enrollment and concentration demographic trends to inform future representation goals.
G3: Refine and improve UTA training, and leverage existing community building programs (WiCS, Mosaic+, Spectrum & grad-mentorship), to improve feelings of belonging and support networks for students that identify as women and from HUGs.
G4: Improve and scaffold socially responsible computing (SRC) curriculum to promote students' capacity to integrate ethical and social-impact analysis on technology decision-making, and increase interest in CS for students that identify as women and from HUGs.
G5: Provide research opportunities for undergraduate and graduate students who identify as women and/or from HUGs in the areas of socially responsible and ethical computing.

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[1] Brown identifies students from HUGs as those who identify as Hispanic or Latinx, American Indian or Alaska Native, Black or African American, or Native Hawaiian or Other Pacific Islander

G6: Develop a collaborative partnership with Brown University and Providence Public Schools (PPSD) to create sustainable K-12 CS education outreach programs in communities including many people from HUGs in RI.

3. Activities and Measurement

The contact person for all activities is laura_dobler@brown.edu on behalf of the CS Diversity Committee (CSDC).

G1: Representation: (**A1**) academic sponsorship, staff and faculty booth representation, and funding for student registration and travel scholarships to: (a) Grace Hopper Celebration of Women in Computing, (b) Richard Tapia Celebration of Diversity in Computing, (c) other national conferences: NSBE, SHPE & oSTEM; (**A2**) Recruit 5 students from HUGs from Tougaloo and other MSI's and HBCUs for the Masters Fellowship Program: tuition-free scholarship; (**A3**) collaborate with the Brown Graduate School on other diversity outreach initiatives; (**A4**) mentor current undergraduate students from HUGs in their Brown PhD applications.

> *Evaluation:* Review demographic data of faculty, PhD & masters' applicant pools, offers, acceptances and enrollments; review application and acceptance status of student and faculty leads at conferences, outreach initiatives, and application mentorship program.

G2: Undergraduate Longitudinal Data Analysis: (**A5**) CSDC quantitative and qualitative data analysis project in collaboration with the Sheridan Center for Teaching and Learning, the Registrar's Office and the Office for Institutional Equity and Diversity.

> *Evaluation:* Completion of the multipronged data analysis will determine representation goals for undergraduate course enrollments and concentrators.

G3: Community Building: (**A6**) CSDC Student Advocates, faculty and staff led UTA training (1-3x per semester): topics include implicit bias, inclusive pedagogy, teaching strategies, and accessibility; (**A7**) WiCS (Women in CS), Mosaic+ (students from HUGs in CS): financial & logistical support, community building, peer-mentorship; (**A8**) Mosaic+ Transition Program: pre-orientation and peer-mentorship program for incoming students from HUGs.

> *Evaluation:* (A6) TA training grades (assess learning) feedback surveys (assess impact); (A7) climate surveys; (A8) longitudinal study: participants' grades and concentration status (compared to non-participants that identify as HUGs).

G4: Socially Responsible Computing (SRC): (**A9**) ~10 CS courses hire Socially Responsible TAs (STAs) each semester to develop curriculum and assignments, multidisciplinary faculty oversee scaffolding of curriculum to reduce overlap and build student competency.

> *Evaluation:* SRC assignment course evaluations; increased representation in STA applicant pool; department climate surveys; STA curricular training feedback surveys.

G5: Research: (**A10**) "Computing for the People" multidisciplinary research center; (**A11**) the Leadership Alliance: Summer Research Early Identification Program (SR-EIP): 3-5 students; (**A12**) exploreCSR: Socially Responsible AI for Computational Creativity & exploreCSR: Diversity in Computer Systems: semester-long undergraduate research programs: 40 students.

> *Evaluation:* (A10) establishment of the center; (A11 & A12) track graduate application and enrollment status of students in programs.

G6: K-12 Outreach: (**A14**) Partnership with Brown Annenberg Institute, PPSD and CS Dept to strengthen outreach programs: IgniteCS (undergraduate student led instruction), Bootstrap Project (integrated CS curriculum design for grade 6-12), and others.

> *Evaluation:* sustained CS education programs in 1-3 PPSD schools; review student surveys to measure learning outcomes.