Tennessee Technological University

Department of Computer Science

Departmental BPC Plan

# Context

Tennessee Technological University is a state university located in Cookeville, TN in the Upper Cumberland Region between Nashville and Knoxville. In Fall 2019, the undergraduate and graduate student population totaled to 10,140, 47% of which were female. Students identifying as white or Caucasian totaled to 83% and no other racial or ethnic group had a population above 4% on campus. However, the Hispanic/Latinx population is significantly underrepresented at the university when compared to the city of Cookeville. Additionally, much of our student population includes first-generation and/or low-income individuals from the surrounding region.

Enrollment in our Computer Science department totals to 549 students as of Fall 2019. The gender disparity is significant within the department compared to overall campus demographics. As of Fall 2019, only 14% of students in our department identify as female. In addition, the Hispanic/Latinx racial disparity is also significant when compared to Cookeville’s demographics, with only 4% of students identifying as Hispanic/Latinx.

# Mission

The BPC mission of our Computer Science department focuses on significantly increasing the number of women, low-income, and/or Hispanic/Latinx students to better reflect the demographics of our region. While we are interested in broadening the participation of graduate students and faculty, we are currently focused on increasing the percentage of underrepresented groups participating at the undergraduate level. As such, our guiding principles are listed below.

* To **advocate** for the full engagement, empowerment, and success of underrepresented groups in our Computer Science department and within the local community.
* To **support** the success ofa diverse and inclusive culture and community.
* To actively **recruit** underrepresented students.
* To **celebrate** a diverse and inclusive culture and community.
* To provide **outreach** to underrepresented groups in our regional communities.
* To continually **reflect** on our successes and failures, and to **identify** and **adopt** the best practices for creating a diverse and inclusive environment.

# Goals & Activities

The goals of our Computer Science department are listed below.

1. Increase awareness in our regional community about the importance of diversity within Computer Science.
2. Increase enrollment and retention of women and underrepresented groups.
3. Promote a more inclusive experience within our department.
4. Provide better assistance in advising and career placement for students in underrepresented groups.

We currently participate in a variety of activities aimed at broadening participation within our programs and at achieving our goals listed above. In particular, we have made strides at achieving gender parity in enrollment. We have helped fund conference participation of underrepresented students, provided scholarships aimed at improving diversity, hosted various K-12 outreach programs, and advocated for student organizations aimed at supporting underrepresented students in computing and engineering.

However, there is still much work to be done at improving gender representation within our department. We will continue to improve our existing activities while also adding new activities. We will host events targeted at gender and racial underrepresented groups in order to create a sense of community, disseminate technical knowledge, and address social and cultural concerns.

Additionally, our regional demographics create an opportunity for increasing the diversity of the socio-economic backgrounds of our student body. As such, we are interested in developing a *Red-Shirt* program similar to that developed at the University of Washington[[1]](#footnote-1) that is aimed at low-income and/or first-generation students. The Red-Shirt program is intended to provide mechanisms for students to receive support and networking opportunities within our Computer Science department. The Red-Shirt program will include a Summer Bridge Program for college preparedness, specialized tutoring, professional and academic mentoring, specialized academic advising, targeted outreach, recruitment, and scholarships.

# 4. Metrics

We will track the activities associated with each of our goals using the following metrics and approaches:

* A qualitative climate survey on awareness focusing on engagement, empowerment, and success of underrepresented groups. We will survey our current Computer Science students and the regional public.
* A quantitative report containing how many applications we receive and how many students we accept, enroll, retain, and graduate from underrepresented groups compared to those from non-underrepresented groups.
* A quantitative report including enrollment data for the number of applications we receive from students that participated in our outreach projects.
* A quantitative analysis of how many students from underrepresented groups are placed in careers in a computing field soon after graduation compared to students from non-underrepresented groups.

1. The Red Shirt metaphor comes from college athletics and refers to an additional year of preparation for student athletes prior to participation in a full 4-year athletic career. [↑](#footnote-ref-1)