

Broadening Participation in Computing Plan
The University of Texas at Austin
Computer Science (CS) and Electrical and Computer Engineering (ECE)

Prepared and Overseen by:

CS: Peter Stone, Chair (pstone@cs.utexas.edu) ECE: Diana Marculescu, Chair (dianam@utexas.edu)
Alison N. Norman (ans@cs.utexas.edu) Andreas Gerstlauer (gerstl@ece.utexas.edu)

1. Context: The University of Texas at Austin is a flagship R1 institution in Texas and is home to nationally recognized departments of Computer Science (CS) and Electrical and Computer Engineering (ECE). Our goal is to broaden participation in computing to include all Texans.

2. Goals, Activities and Metrics: The mission of the UT Austin computing departments is to substantially increase the number of enrolled, retained, and graduated students over the next five years.

[Goal 1, G1 (Contact: For CS: Michaela Cicero. For ECE: Brittney Outlaw)]

Annually implement the following recruiting activities at the levels described:

- [A1.1] Day camps and summer camps, e.g. CS Summer Academies and the Longhorn Engineering Summer Camp (LESC). Over the next 5 years, we will offer 6-8 week-long summer and scholarship-based summer camps. We will collaborate with the Office of Admissions to recruit students from middle and high schools throughout Texas.
- [A1.2] Collaborations with K-12 schools, e.g. the Edison Lecture Series, Coding in the Classroom, and AI/ML 101 for High School Educators. Over the next 3 years, we will expand collaborations to include 15 Texas high schools, 6 middle schools, and 6 elementary schools. These programs will include outreach, recruitment, and professional development for teachers.
- [A1.3] Encourage admitted students to accept admission, e.g., through outreach via phone calls, letters, and or dedicated events. In both departments, these students will be invited to participate in on campus events like Texas ECE VIP Day and UTCS Follow the Leader. Within 3 years, we will expand to have each department hosting 7 yield events per year.
- [A1.4] Expand summer transition programs open to all students to help them feel included and welcome in the departments upon arrival. In CS, we already offer such a program albeit with a limited enrollment capacity; we will continue to expand the event. ECE will participate in a soon-to-launch summer bridge program being designed as an engineering-wide program.

[Goal 2, G2 (Contact: For CS: Alex Bernal & Alison Norman. For ECE: Brittney Outlaw)]

Build a supportive and socially conscious culture through conversations and other community events across the campus computing community to better retain all undergraduate students, with the goal of conducting 12 such events per year by 2028:

- [A2.1] Expand student support structures and welcoming environments, e.g., the ECE TALENT Success Program, first-year interest groups in both departments, ethics classes, and orientation and advising events. We will host yearly opportunities for TAs, students, and student org officers to learn about strategies for creating welcoming environments.
- [A2.2] Host learning communities with guided reading lists to better understand computing and its effect on society. The communities have and will include faculty, staff, and students.
- [A2.3] Host informal efforts like community town halls and events like faculty fireside chats organized by student organizations that foster intra-departmental communication and support students who may otherwise feel less included in the department.

[Goal 3, G3 (Contact: For CS: Alex Bernal & Alison Norman. For ECE: Brittney Outlaw & Tom Atchity)]

Implement activities at the levels described below to expand opportunities for students to learn about graduate school and how to apply. We will also broaden the mechanisms through which we disseminate information about graduate programs:

- [A3.1] Provide summer research experience for undergraduate (REU) programs to positively impact the number of students' enrolling in graduate programs. The ECE Next program already exists in

ECE for this purpose, and CS will work to establish a formal REU program that similarly aims to create a cohesive community. Within the next 2 years, we will connect with 7 other CS/ECE departments at universities across Texas. In coordination with the faculty and student groups at these institutions, we will intentionally recruit all students to summer research programs and to our graduate programs.

- [A3.2] Both departments will expand or create graduate application assistance programs. The ECE Next program offers a fall semester workshop on graduate school applications, followed by personalized guidance for ECE Next scholars. Within 3 years, both departments will expand programs to offer such workshops every semester.
- [A3.3] Both departments will expand or create research-introduction sessions to help undergraduate students learn about research. CS holds annual sessions on the same topics for student organizations. ECE will expand and build on the existing ECE Next program workshops.
- [A3.4] CS and ECE will expand their graduate school recruiting activities, such as attending conferences with a large population of undergraduates that also host career fairs. We will fund current students, faculty and staff to attend 8 events annually to recruit new graduate students.

[Goal 4, G4 (Contact: For CS: Alex Bernal & Alison Norman. For ECE: Tom Atchity)]

Ensure that all current students have access to the resources they need to succeed in our graduate programs. Develop or expand our mentoring programs each year and establish yearly panels by 2028.

- [A4.1] Run graduate mentoring programs for incoming graduate students, such as the ECE Partners program that pairs new incoming grad students with senior peer and faculty mentors to aid in their first-year transition.
- [A4.2] Provide mentoring to help students achieve expected milestones on time and to help students navigate unintended complexities of graduate school. These programs will be expanded with cross-department seminars on topics like time management, imposter syndrome, etc. We will also expand students' access to mentors from outside their specific research area to help students navigate their advisor relationship and other aspects of the Ph.D.

To measure progress, we will track the number of students who apply, enroll, and graduate from our programs. We will also use surveys and other qualitative feedback mechanisms to measure the supportiveness of our program. We will assess trends in these data to understand the impacts of our programs on student participation.