



**M** | COMPUTER SCIENCE & ENGINEERING

Climate, Diversity, Equity, and Inclusion  
**AY 2019-2020** Annual Report

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# CSE Climate, Diversity, Equity and Inclusion Report

AY 2019-2020

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## Introduction

This report is a public record of statistics and activities intended to provide transparency regarding climate, diversity, equity and inclusion in Michigan Computer Science and Engineering. The report is suitable for students and community members and includes brief contextual information and background for nuanced topics.

The 2019-2020 Academic Year was a turbulent time locally and globally. Multiple allegations of faculty sexual misconduct were reported, COVID-19 disrupted in-person education and disproportionately affected certain groups, and the Black Lives Matter protests and associated struggles for civil rights highlighted concerns about systemic inequality. The CSE community undertook multiple activities, initiatives and policy changes, both reactive and proactive, many of which are detailed below.

Previous CSE climate reporting was distributed among the faculty. Following our renewed commitment to transparency, we make this report, and subsequent annual reports, public.

Diversity, equity and inclusion are core values of the University, the College of Engineering and Computer Science and Engineering. There are legal (e.g., equal opportunity and treatment), moral (e.g., ideology) and pragmatic (e.g., engineering is a creative activity that benefits from multiple perspectives) reasons, among others, to broaden participation in computing. One goal of this report is to help track progress and identify areas for improvement.

## Issues and Terminology

Because this is a public-facing document intended for a general audience, we provide a brief introduction to some of the issues and terms.

**Diversity, Equity and Inclusion (DEI)** concerns are multi-faceted. While notions such as race, ethnicity and gender are commonly considered, DEI includes all students and community members.

**Underrepresented minority** racial and/or ethnic backgrounds (**URM**) are context-dependent with respect to computer science in particular or engineering in general. For example, while Asian and Asian American individuals are a minority group in the United States generally, they are not an underrepresented minority in computing. The Rackham Graduate School URM definition includes African Americans, Hispanic Americans, American Indians/Native Alaskans, Native Hawaiians/Pacific Islanders (excluding Asian Americans), and multi-racial students identifying at least one of previously listed URM categories. The term “underrepresented minority” is problematic because it defines disparate groups with a homogeneous term, which those groups did not choose

(see [Tiffani Williams essay at the CACM website](#)). We use the term because it is the current language of the Rackham Graduate School and the University.

Statistics often distinguish between **sex** (e.g., males, females, etc.) and **gender** (e.g., men, women, etc.), with the latter viewed through the lens of [social construction or identity](#). The latter can be particularly helpful for discussions of LGBTQ+ issues, among other contexts. The National Center for Women & Information Technology provides an accessible summary of the [overall state of gender diversity in computing](#). Historically, female share of CS undergraduate degrees reached its peak around 40% in the 1970's, plummeted into the low teens (e.g. 12-15%), and is back up to around 20% in most CS departments. There are outliers, such as Harvey-Mudd College and Carnegie Mellon University, where female participation in the undergraduate computer science degree program is around 50%.

When measuring participation, we often consider individuals at various stages of a program or process. Broadly, the group of people applying for a position or status (e.g., applying to declare the major, applying to join the graduate program, applying for a faculty position) in a particular year is the **applicant pool**. In the case of faculty hiring, a subset of the applicants will be invited to **interview**. Based on a set of criteria, a subset of applicants will be **admitted** or given an **offer** (e.g., only some who apply to join the graduate program are extended an offer of admission). Of those admitted, a subset will **accept** the offer and join or **enter** the program. Eventually, a subset of those will **complete** the program or otherwise reach a particular milestone (e.g., students may complete the major and obtain the degree, junior faculty may be granted tenure, etc.).

Different measurements at these stages can highlight areas for improvement. For example, when few individuals are present in the applicant pool or when individuals withdraw after an interview or visit, it is typically viewed as a **recruitment** problem. By contrast, if fewer individuals complete the program than begin it, it is typically viewed as a **retention** problem. These distinctions are relevant because they often have different causes or remedies. For example, recruitment issues may be partially addressed through outreach to other schools, while retention issues typically implicate weaknesses in our climate, policies and support for those already here.

**Broadening participation in computing** has been an explicit goal of the US National Science Foundation for decades. The NSF funded about a dozen alliances to improve our national ability to diversify computing (see the [AAAS report on BPC alliances](#)). Former US president Barack Obama made it a national goal to provide “CS for All” in US schools, and [the CS for All consortium](#) still continues work towards that goal. Understanding how computer science became so male-dominated, compounded by the underrepresentation of BIPOC (Black, Indigenous, and People of Color) students,



remains an open research question today. One of best empirical studies is [\*Unlocking the Clubhouse\*](#) by Jane Margolis and Alan Fisher. A historical treatment is [\*The Computer Boys Take Over\*](#) by Nathan Ensmenger.

## Michigan Law and Context

**Affirmative action** broadly refers to [policies designed to help disadvantaged or underrepresented groups](#). In 2006, the [Michigan Civil Rights Initiative \(MCRI\)](#) was adopted by Michigan voters; that initiative, which is codified as Article I, Section 26 of the Michigan Constitution, prohibits public universities from “discriminat[ing] against, or grant[ing] preferential treatment to, any person or group on the basis of race, sex, color, ethnicity, or national origin in the operation of public education, public employment, or public contracting.” The [long-term effects of the law](#) are still being studied.

One implication, phrased informally, is that programs that provide additional help or resources or guide admissions or hiring decisions *cannot* be based on qualities such as race or gender. Programs that help support student success, such as the [M-STEM \(Michigan Science, Technology, Engineering and Mathematics\) Academies](#) or the [Comprehensive Studies Program](#), use alternate criteria. For example, CSP’s mission includes a focus to “provide academic guidance for, and retain undergraduate students from diverse populations with outstanding potential for success at the University of Michigan” and [any student can apply to join CSP](#).

While affirmative action remains controversial (with multiple [pro](#) and [con](#) arguments, and the Michigan Civil Rights Initiative [passing by a 58 to 42](#) margin), the state law does limit targeted actions that can be taken by the University in general and by CSE in particular. Issues regarding the underrepresentation of particular groups cannot legally be addressed through programs limited to individuals of those particular races, ethnicities or genders. Instead, we seek to address underrepresentation by offering programs and initiatives that focus on issues of diversity or that are intended to improve the experiences of underrepresented groups, but that are open to all without regard to identity. In addition, we recognize that [issues of climate, diversity, equity and inclusion affect us all](#) and that efforts should improve the experiences of, and support the success of, all students and community members.

## Undergraduate Program

Information about the CSE undergraduates is available at various points throughout the program.

## Undergraduate Major Enrollment

The [Office of the Registrar's Enrollment Report](#) for Computer Science Undergraduates provides enrollment information. We consider the [CS Major \(Engineering\)](#), the [CS Major \(Literature, Science and Arts\)](#), the [Data Science Major \(Engineering\)](#), the [Data Science Major \(Literature, Science and Arts\)](#), and the [Computer Engineering Major](#) (shared with [Electrical and Computer Engineering](#)):

	Winter 2020		Fall 2019	
<b>Total</b>	2586	100.0%	2346	100%
<b>Female</b>	590	22.8%	513	21.9%
<b>Male</b>	1995	77.2%	1834	78.2%
<b>Asian</b>	1014	39.2%	641	27.3%
<b>Black</b>	39	1.5%	37	1.6%
<b>Hispanic</b>	122	5.1%	94	4.0%
<b>Two or More</b>	76	2.9%	68	2.9%
<b>Two or More URM</b>	32	1.2%	27	1.2%
<b>Unknown</b>	130	5.0%	120	5.1%
<b>White</b>	961	37.2%	903	38.5%
<b>Non Resident Alien</b>	505	19.5%	457	19.5%

To provide a context for these numbers on race, the state of Michigan is 79.2% White, 14.1% Black, 5% Hispanic, and 3.4% Asian, according to the [US Census](#).

We note that CSE does not admit undergraduates directly when they enter the University of Michigan. Instead, undergraduates complete a number of semesters of prerequisite courses (e.g., in [Engineering](#) or [Literature, Science and Arts](#)) before applying to declare a computing major.

We also note that Engineering and LSA often show different patterns of enrollment with respect to gender and ethnicity. For example, in Winter 2020, Engineering undergraduates in Computer Science

were 18.1% female and 8.0% URM, while LSA undergraduates in Computer Science were 28.5% female and 5.8% URM.

## Undergraduate Core Courses

Computing CARES conducts extensive surveys and interventions in courses associated with the first through third semester of the CSE program. In this presentation, Likert scale responses are presented as 1-5 numerical values (e.g., terms such as “strongly disagree”, “poor” or “not at all” map to 1; “neutral” maps to 3; “strongly agree” or “excellent” map to 5, etc.).

EECS 183, ENGR 101, and ENGR 151 are introductory computing courses. We present *start-of-course* survey data for 1671 EECS 183, 814 ENGR 101 and 145 ENGR 151 consenting AY 2020 students. Note that some students use transfer credit or a proficiency exam instead of taking introductory courses.

EECS 376 is an undergraduate theory of computation course. It is required for the major and is often one of the last non-elective courses taken. We present *end-of-course* survey data for 192 consenting Fall 2019 students and 428 Winter 2020 students.

Select sentiment and climate questions:

	Start of EECS 183, ENGR 101, ENGR 151	End of EECS 376
After graduation, there are equal opportunities for a career in Computer Science for males and females alike.	3.50	3.48
I find Computer Science intimidating.	3.40	3.14
I can see myself in a computing-related career in the future.	3.64	4.28
I believe that other students in Computer Science will be welcoming of me.	3.80	3.92

I feel included in the groups that I want to belong to.	3.78	3.90
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How would you describe your current mental health?	3.29	2.89
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We present canonicalized gender and ethnicity self-reporting, as a percentage of students who reported their gender and ethnicity at each stage. Differences between the presence of various groups at these two stages provides one lens for examining retention or pipeline issues. In EECS 183, ENGR 101 and ENGR 151, 2613 out of 2630 respondents (99.4%) reported their gender, and 2594 (98.6%) reported their ethnicity. In EECS 376, 453 out of 620 respondents (73.1%) reported their gender, and 456 (73.5%) reported their ethnicity.

	Start of EECS 183, ENGR 101, ENGR 151	End of EECS 376
<b>Man</b>	61.62%	75.50%
<b>Woman</b>	37.58%	24.06%
<b>Non-binary</b>	0.54%	0.00%
<b>Trans</b>	0.27%	0.44%
<b>Asian</b>	36.62%	52.85%
<b>Black</b>	2.70%	0.44%
<b>Hawaiian or Pacific Islander</b>	0.04%	0.00%
<b>Hispanic or Latino</b>	3.66%	1.97%
<b>Native American or Alaska Native</b>	0.08%	0.00%
<b>Two or More</b>	3.12%	2.63%
<b>Two or More URM</b>	4.63%	2.19%
<b>White, Caucasian, Middle Eastern, North African, Arab</b>	49.15%	39.91%



## Undergraduate Degree Conferral

The Office of Student Affairs (Julia Jackson, 7/9/2020) provides the following information about selected undergraduate degree conferral rates. We consider the CS Major (Engineering), the CS Major (Literature, Science and Arts), the CS Minor, the Data Science Major (Engineering), and the Computer Engineering Major (shared with Electrical and Computer Engineering). Data Science (Literature, Science and Arts) data are not available:

	2019-20	
<b>Total</b>	1243	100%
<b>CS Eng Total</b>	517	41.59%
<b>CS LSA Total</b>	398	32.02%
<b>CS Minor Total</b>	188	15.12%
<b>CE Total</b>	97	7.80%
<b>DS Eng Total</b>	43	3.46%
<b>CS Eng Female</b>	106	20.50%
<b>CS LSA Female</b>	111	27.89%
<b>CS Minor Female</b>	53	28.19%
<b>CE Female</b>	16	16.49%
<b>DS Eng Female</b>	10	23.26%
<b>CS Eng URM</b>	28	5.42%
<b>CS LSA URM</b>	18	4.52%
<b>CS Minor URM</b>	10	5.32%
<b>CE URM</b>	5	5.15%
<b>DS Eng URM</b>	1	2.32%

The [Michigan Engineering Career Resource Center](#) provides salary data on average salaries by major. [For 2018-2019](#), the reported Computer Science salaries for students graduating with bachelor's degrees were median \$101,000, average \$99,248, and range \$52,000 – \$170,000. The Engineering Career Resource Center does not tie their data to ethnicity breakdowns.

## Undergraduate Program Context and Discussion

As a broad point of comparison, the 2019 [Computing Research Association Taulbee Survey](#) of hundreds of PhD-conferring CS departments found that 79% of undergraduates enrolled in CS programs and also 79% of undergraduate degree recipients were males, while 21% of both groups were females. Overall, in the Taulbee survey, 4.7% of enrolled undergraduates reported as Black or African American, while 10.0% percent reported as Hispanic. ([The report of Non-Doctoral granting Computing \(NDC\) departments](#) varies, but not significantly.)

CSE's undergraduate enrollment of male and female students (22% female) aligns with the national average. Similarly, CSE's degree conferral of male and female major students (22% female) aligns with national figures and its enrollment rates. However, CSE's undergraduate enrollment of Black and Hispanic students is significantly below the national average and the percentage of the population in the state. Similarly, degree conferral rates for all URM student majors taken together (4.9%) are lower than national averages. When enrollment or admission rates for a group are lower than degree conferral rates for that group, it highlights a pipeline or retention issue. Self-perceptions of mental health deteriorate throughout the major.

## Graduate Program

Information about the CSE graduate program is available at various points throughout the program. Note that because the graduate program is associated with the [Rackham Graduate School](#), some data reporting follows a different format.

Note that race/ethnicity information (e.g., such as being Black, Hispanic or Native American) is typically only associated with domestic students and is usually not tracked for international students.

## Graduate Admissions Process

Broadly, students [apply to CSE's graduate program](#) seeking a Master's Degree or a Doctor of Philosophy (Ph.D.). **Master's** students are typically self-funded and pursue a two-year degree based on coursework. (Some master's students are more research-focused and may transition to the Ph.D. program after completing the Master's degree.) Our Sequential Undergraduate/Graduate Study (**SUGS**) program allows Michigan students to complete an undergraduate degree and Master's degree, often in a total of five years. While **Ph.D.** completion times vary, it is common for a student to spend

four years on doctoral research after completing a Master's degree. Some students apply for the Ph.D. program after completing a Master's degree elsewhere; others may apply after a bachelor's degree and then obtain a Master's degree and Ph.D. sequentially.

While graduate degrees share many similarities, because the Master's degree typically places more of an emphasis on coursework and the Ph.D. degree typically places more of an emphasis on research, graduate admissions often treats applicants separately. While strong graduate applicants are distinguished by initiative and a mastery of undergraduate material generally, strong Ph.D. applicants typically additionally demonstrate experience with independent research.

All CSE faculty members can review all CSE graduate applicants. The **graduate admissions committee** reviews all applicants, regardless of focus area, and brings strong applicants to the attention of appropriate faculty. This involves a holistic consideration of individual application materials, including direct applicant mentions of particular faculty members as well as perceived research interest or overlap based on application essays and previous experience.

Faculty often follow up with admitted students to encourage them to **accept** the offer. This is often done through a combination of email, phone calls, and awarding scholarships or fellowships, such as the [Rackham Merit Fellowship](#). In addition, CSE hosts a formal visit day. In AY 2020, the visit day activities were remote as a result of COVID-19. In general, it can be more difficult for some students to attend a visit day (e.g., based on international or socioeconomic status). CSE provides full support for domestic students and \$500 for international students for visit day travel.

In 2020, CSE sponsored 59 students for graduate **fellowships**: each student had at least one CSE faculty recommender. The fellowships included the [Michigan Rackham Merit Fellowship](#) as well as the Ada Lovelace, Beyster, CRA, Google, IBM, JP Morgan, Lipschutz, Microsoft, ProQuest, Rackham Outstanding Graduate Student Instructor, Towner, and Two Sigma fellowships, among others. Of those students for which gender information is available (via the [UGrab database](#)), 41.5% were female and 58.5% were male. Of those for which ethnicity information is available, 47.6% were Asian, 38.1% were White, 9.5% were Two or More Races/Ethnicities, and 4.8% were Hispanic.

## **Graduate Recruiting**

CSE does not currently have a program of faculty or staff visits to other schools for recruiting purposes. In recent years current Ph.D. students have returned to their alma maters to deliver recruitment talks. In addition, CSE makes heavy use of advertising through social media and mailing lists, including lists targeted at specific audiences, such as URM students.

In the 2019-2020 Academic Year, in conjunction with [CSE Explore Grad Studies](#), we sent targeted recruitment emails to over 140 faculty at 81 institutions:

- Amherst College, Arizona State University, Boston University, Brown, Cal Tech, Carleton College, Case Western, CMU, Columbia University, Cornell, Dartmouth, Dearborn, Duke, Florida State University, Georgia State University, Georgia Tech, Harvard University, Harvey Mudd College, Howard University, Johns Hopkins, Miami University, Michigan State, Michigan Tech, Minnesota, MIT, North Carolina, North Carolina A&T State University, Northeastern, Northwestern, NYU, Ohio State, Penn State, Princeton, Purdue, Rice, Rutgers, Southeastern Oklahoma State University, Southern Methodist University, Stanford, Stevens Institute of Technology, Stonybrook, Swarthmore College, Syracuse University, Texas A&M, Toronto, Tufts University, UC Berkeley, UC Irvine, UC Santa Cruz, UCLA, UCSD, UIC, UIUC, UMass Amherst, UNC, University of Chicago, University of Alaska Fairbanks, University of Arizona, University of Colorado, Boulder, University of Hawaii at Manoa, University of Illinois, Chicago, University of Maryland, College Park, University of Michigan, Flint, University of Notre Dame, University of Texas at El Paso, University of Utah, University of Virginia, University of Washington, University of Wisconsin, Madison, UPenn, USC, UT Austin, Virginia Tech, Washington University, St. Louis, Waterloo, Wayne State, Wellesley College, Western, Williams College, Wisconsin, and Yale.

In addition, CSE sends broader recruitment materials to over 20 mailing lists associated with multiple universities and organizations:

- Boston University, Brown, Michigan State University, Michigan, MIT, New York University, Princeton, SIAM Data Mining and Analytics, UC Berkeley, UCLA, UMass Amherst, University of Pennsylvania, UT Austin, and Washington University St. Louis.

including some associated with women:

- Harvard WICS, MIT EECS Women, Northeastern Women in CS, Society of Women Engineers, UIUC Women in Engineering, and Women in Computing.

Finally, CSE sent recruiting emails to 40 [National Society of Black Engineers](#) students and over 125 previous participants in the Explore Grad Studies program.

In the last cycle, Explore Grad Studies sent about 250 targeted emails, which resulted in about 200 applications to CSE's graduate program.

In addition, CSE sponsors a [Recruit@Home](#) program in which students travel to their alma maters. CSE provides stipends to offset travel costs. In 2019 graduate students visited Auburn University, Harvard College, Massachusetts Institute of Technology, and the University of California at Berkeley.

### Graduate Applications: Race/Ethnicity Statistics By Degree

In AY 2020, CSE tracked 867 applicants to the Ph.D. program (via the Graduate Admissions dashboard system). Of those applicants, 167 were given offers of admission and 49 accepted. Their self-reported races/ethnicities were:

(AY 2020)	Applied (Ph.D.)	Admitted (Ph.D.)	Accepted (Ph.D.)
<b>Total</b>	867	167	49
<b>2 or More</b>	9	3	1
<b>Asian</b>	136	54	19
<b>Black</b>	9	3	1
<b>Hispanic</b>	8	1	0
<b>Native American</b>	3	2	1
<b>Did Not Indicate</b>	556	61	16
<b>White</b>	146	43	11

In AY 2020, CSE tracked 1871 applicants to the MS program. Of those, 308 were given offers of admission (including admissions to the [SUGS program](#), etc.) and 72 accepted. Their self-reported ethnicities were:

(AY 2020)	Applied (MS)	Admitted (MS)	Accepted (MS)
<b>Total</b>	1871	308	72
<b>2 or More</b>	16	7	1
<b>Asian</b>	257	85	27
<b>Black</b>	5	1	0



<b>Hispanic</b>	10	3	1
<b>Did Not Indicate</b>	1458	168	27
<b>White</b>	125	44	16

### Graduate Applications: Undergraduate Institution Statistics

In AY 2020, CSE received applicants from a number of undergraduate institutions. The undergraduate institutions of applicants are one lens to evaluate the breadth of the applicant pool and our recruitment outreach efforts. Applicants who did not indicate one of the three most frequent ethnicities (i.e., “Did Not Indicate”, “White” or “Asian”) came from 27 undergraduate institutions:

- American Univ Beirut, Amherst Coll, Brigham Young Univ Utah, Clemson Univ, Harvard College, Lafayette Coll, Macalester Coll, Massachusetts Inst Tech, Michigan State Univ, Morehouse Coll, New Mexico State Univ, Penn State Univ Park, Principia Coll, Purdue Univ Northwest Hammond, Purdue Univ West Lafayette, Rutgers St Univ NJ New Brunswick, Stanford Univ, Univ California San Diego, Univ Chicago, Univ Kentucky, Univ Maryland Baltimore County, Univ Michigan, Univ New Mexico, Univ Texas Dallas, Univ Washington, University Of Guyana, Wellesley Coll

In Fall 2020, CSE admitted applicants who did not indicate one of the three most frequent ethnicities from the following 12 institutions:

- Amherst Coll, Brigham Young Univ Utah, Massachusetts Inst Tech, New Mexico State Univ, Purdue Univ Northwest Hammond, Purdue Univ West Lafayette, Univ California San Diego, Univ Kentucky, Univ Maryland Baltimore County, Univ Michigan, Univ New Mexico, University Of Guyana

Regarding matriculation, 5 such students accepted our offer, collectively from 3 institutions:

- Purdue Univ Northwest Hammond, Univ Michigan, University Of Guyana

Focusing specifically on Master’s students, CSE internal tracking reports that the accepted, incoming Master’s degree students for Fall 2020 come from 34 different colleges and universities. Their undergraduate institutions range from smaller liberal arts colleges (e.g., with enrollments of 800 undergraduates) to larger universities, including the University of Michigan itself (30,000 undergraduates). Eight nationalities are represented in the incoming Master’s class.

## Graduate Applications: Other Demographic Statistics

We also distinguish between domestic and international (non-resident) applicants and between male and female applicants. (In current tracking, both are reported as binary categories.)

(AY 2020)	Applied	Admitted	Accepted
<b>Total</b>	2738	475	121
<b>Domestic</b>	585	177	54
<b>Domestic Female</b>	121	50	15
<b>Domestic Male</b>	464	127	39
<b>International</b>	2153	298	67
<b>International Female</b>	468	62	14
<b>International Male</b>	1685	236	53

## Graduate Enrollment Trends

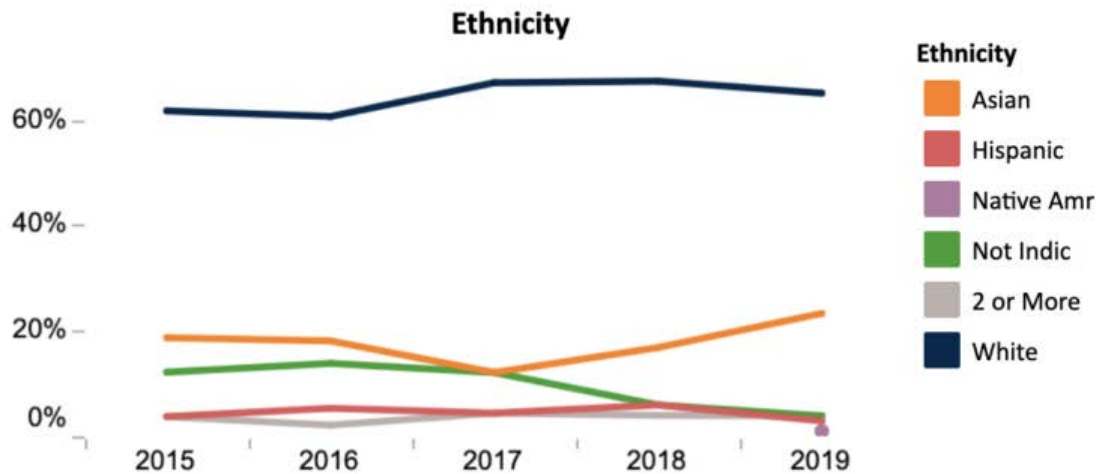
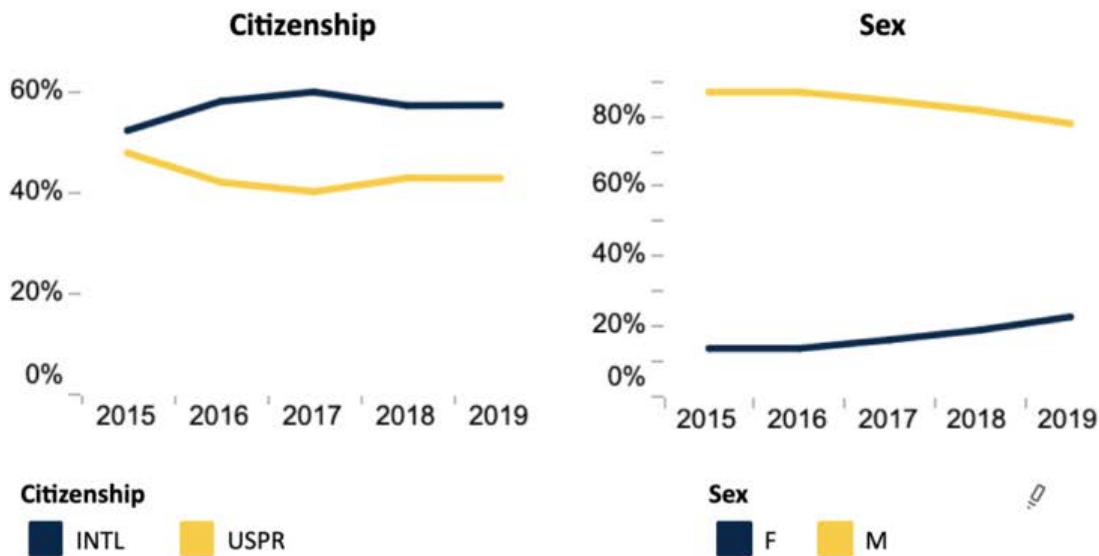
The [Rackham Graduate School's Doctoral Program Statistics for Computer Science and Engineering](#) include information about enrollment trends:

# ENROLLMENT



## Total Enrollment

241



### Demographics

Insights into the citizenship, gender, and ethnicity of students enrolled in Computer Science & Engineering for 2019. Ethnicity is reported only for domestic students (US Citizens or Permanent Residents). Hispanic students are excluded from the Two or More category. Categories with fewer than 5 students are not shown.

Note that ethnicity information is only available for domestic students (US Citizens or Permanent Residents). Note that slight differences in how CSE and Rackham present the data result in slightly different totals (e.g., CSE tracks 2738 applicants while Rackham reports 2716). This can be relevant for groups with low total numbers, such as underrepresented minorities.

### Graduate Degree Completion

CSE conferred 100 graduate degrees in Fall 2019 and Winter 2020, including MS, SUGS and Ph.D. Note that students receiving degrees in AY 2019-2020 entered the program in previous years. Their self-reported ethnicities were:

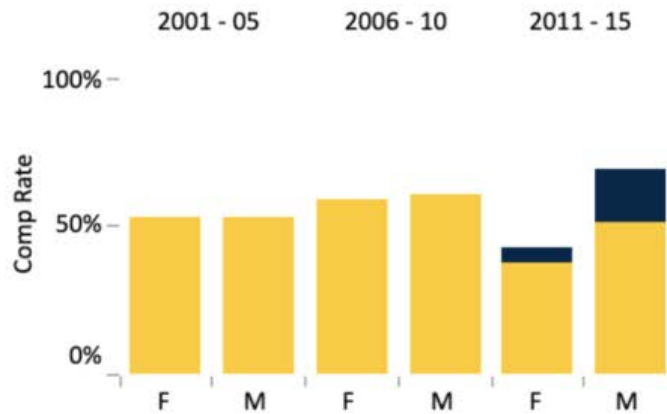
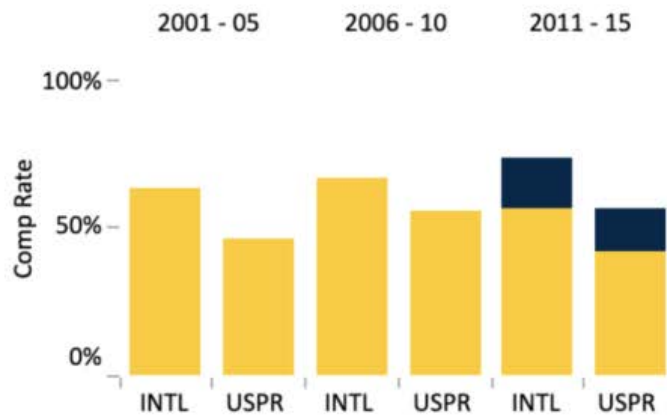
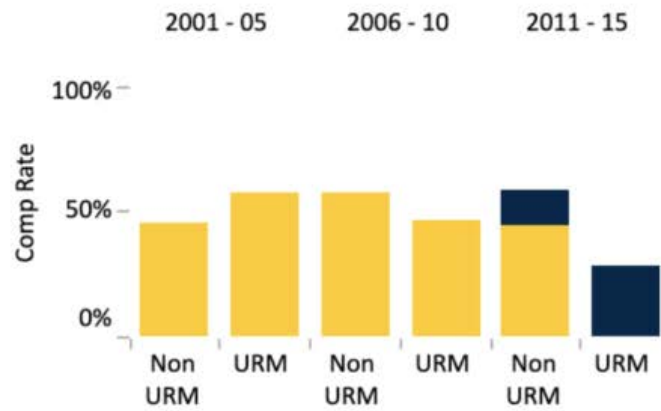
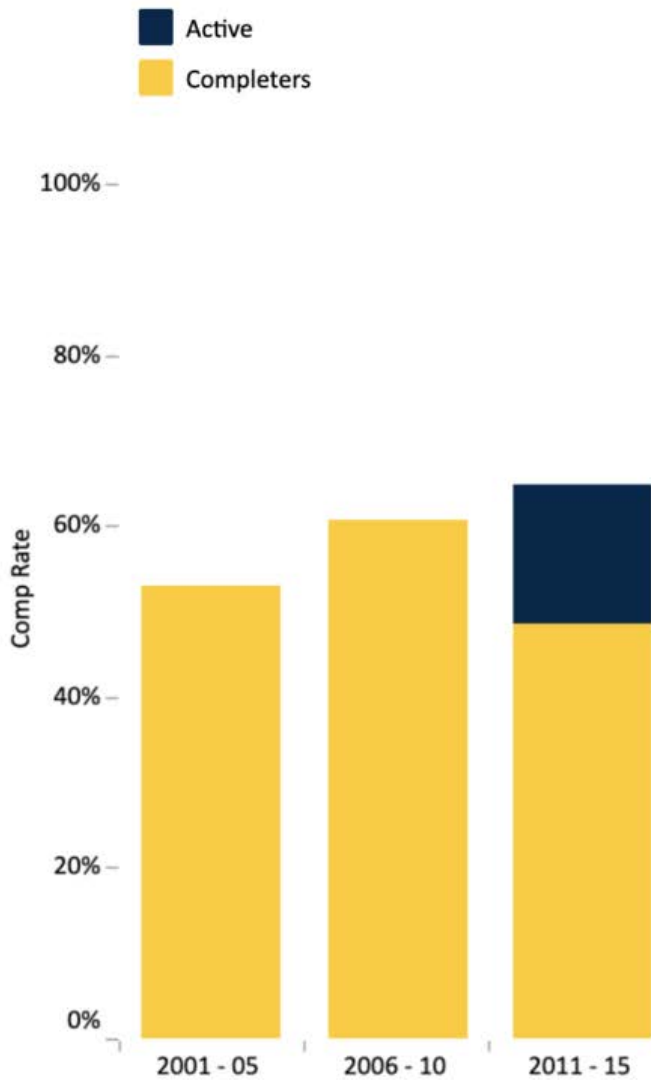
(FA '19, WN '20)	Completed (All)	Completed (MS, SUGS)	Completed (PhD)
<b>Total</b>	100	74	26
<b>2 or More</b>	2	1	1
<b>Asian</b>	30	26	4
<b>Black</b>	0	0	0
<b>Hispanic</b>	3	2	1
<b>Native American</b>	0	0	0
<b>Did Not Indicate</b>	41	27	14
<b>White</b>	24	18	6

The [Michigan Engineering Career Resource Center](#) provides salary data on average salaries by area. [For 2018-2019](#), the reported Computer Science and Engineering salaries for students graduating with master's degrees were median \$120,000, average \$119,794, and range \$71,148 – \$175,000.

### Graduate Degree Completion Trends

The [Rackham Graduate School's Doctoral Program Statistics for Computer Science and Engineering](#) include information about degree completion trends:

# COMPLETION RATE BY ENTERING COHORT



## Completion by Entering Cohort

The percentage of students that have completed their degree as of September 2019. Students are grouped by entering years. Categories with fewer than three students are not shown.

## Graduate Degree Post-Completion Outcomes

John Gonzalez of [Rackham Institutional Research](#) tracks the “Rackham Career Outcomes Collection” (cf. the [Exit Survey](#) of all Rackham graduating doctoral students). Among CSE students graduating in 2019, 29 provided data. Of those, 5 reported as Asian, 6 reported as White, and 18 did not provide race/ethnicity information. Post-graduation, 9 reported jobs at Universities, 12 reported jobs at companies (e.g., Google, etc.), and 8 did not report information. Since this represents only 29/100



students graduating from CSE in 2019, an additional focus on encouraging participation in data collection is merited.

## **Graduate Program Context and Discussion**

As a broad point of comparison, the 2019 [CRA Taulbee Survey](#) of hundreds of departments found that 23.2% of enrolled CS Ph.D. students were female and 76.8% were male. Hispanic students received 1.4% of CS Ph.D. degrees and Black or African American students received 0.9% of CS Ph.D. degrees. CSE's graduate recruiting efforts currently show a strong focus on [Research 1 Universities](#) and highly-ranked programs and a smaller, but growing, emphasis on community colleges, [Historically Black Colleges and Universities](#), or other [Minority-Serving Institutions](#).

CSE's enrollment rate for female Ph.D. students aligns with the national average. Care must be taken when interpreting ethnicity statistics for CS Ph.D. programs because of low total numbers. For example, while 3.8% of CSE's Ph.D. degrees were conferred to Hispanic students, which is nominally higher than the national average, that corresponds to one single student. Similarly, CSE produced zero Black Ph.D. students, which represents a significant area for improvement. For context, of the 1639 graduating CS Ph.D. students considered in the Taulbee survey across hundreds of US and Canadian schools, only 13 identified as Black or African American, suggesting a problem that is systemic both at the national and the local level. CSE Master's degree enrollment and production trends paint a similar picture when compared to national averages. CSE's graduate application institution data suggests that many of our minority applicants come from the same small set of undergraduate institutions.

## **Faculty Recruiting**

CSE faculty recruiting activities are conducted and tracked internally, within the CSE division. While some candidates are interdisciplinary, ECE and CSE faculty recruiting and hiring within EECS are effectively separate and parallel.

## **Faculty Recruiting Process and Organization**

CSE faculty hiring is overseen by **Faculty Search Committees**. While education and research are priorities for all faculty members, there is typically one committee each year for hiring research-focused faculty members and a separate committee for hiring teaching-focused faculty members (lecturers). This distinction is made because those faculty tracks involve slightly different activities (e.g., lecturers are typically tasked with teaching core undergraduate classes) and thus candidates demonstrate the qualifications in slightly different ways.

While details vary from year to year and school to school, hiring a new faculty member requires support from higher levels of the University administration. Resources must be provided (e.g., space, salary), and as a result a faculty search is often given a finite number of **positions** to fill. Sometimes these are given over a longer period: a department might be given permission to fill three faculty positions over the next two years, for example. When a faculty member leaves or retires, permission is typically given to hire a new faculty member, often called a “replacement hire”. Alternatively, when there is a strategic desire to grow a department (e.g., perhaps because many undergraduates are enrolling in its classes, or because its research is particularly successful), a department might be given permission to fill new positions. In some cases a department might focus hiring on a particular subject matter **area** (e.g., to hire someone in Machine Learning), in other cases a department might look to hire the best candidates on the market that year. In addition to the departmental positions that may be tied to priority subject areas, the College of Engineering always entertains additional hires, including “Target of Opportunity” candidates that fall outside priority areas of allocated positions. These can be considered special opportunities for various reasons, including (and most commonly) contributions to diversity. Per state law this cannot be based on identity, but can be based on other factors, for example demonstrated commitment to broadening the field.

The search committee drafts an official job description and notice which is posted publicly. Candidates typically apply in a November to December timeframe. The search committee reviews their application materials, which include essays, evidence of teaching, research and service success, and letters of recommendation. All faculty applications must include a DEI statement, in which candidates explain their record of activity and achievement in support of diversity, equity, and inclusion. A small number of candidates are invited to **interview**. Interview invitation decisions are based on a combination of considerations, including targeted subject matter areas and candidate qualifications. The CSE faculty as a whole are involved in the process. For example, while the Search Committee is responsible for reading through all applications and bringing promising candidates to the forefront, all applications are visible to all faculty members. In addition, the various CSE [Labs and Centers](#) are explicitly consulted on, and meet to discuss and review applications from candidates in their subject matter areas. A key constraint regarding interview selection is time. It is typically not possible to host more than two, or in extreme cases three, interviews per week. Each interview is about a day and a half long, and includes a seminar presentation, meetings with individual faculty, meetings with student groups, and meetings with department chairs and deans. In addition, not all candidates are available at all times (e.g., they are often also interviewing at other schools), and thus interview time slots must be coordinated.

Once interview information is available, the search committees, labs, and the faculty as a whole meet to consider whether or not to extend offers. Key considerations include target hiring subject matter

areas (if any), candidate qualifications, the number of positions available, and whether or not the candidate meets department collegiality, climate and professionalism standards. Interviews often have a very significant impact compared to a candidate's record "on paper". While CSE-level hiring authority ultimately resides with the CSE Executive Committee, the chair contacts candidates and handles any negotiations, and the faculty as a whole **votes** on hiring decisions. A logistical number of nuances and uncertainties complicate the situation. For example, because the interview season spans multiple months, it may be necessary to decide whether or not to extend an offer to one candidate before another candidate has interviewed. Similarly, not all offers are accepted, so a department hoping to hire one faculty member might negotiate with the administration to have two outstanding offers simultaneously with the expectation that only one will be accepted. While this incurs the slight risk that more candidates might accept offers than expected, it mitigates the risk that a search cycle might produce no new hires. Conversely, a department will sometimes decide that no available candidate in a particular hiring cycle was above threshold.

Finally, sometimes faculty candidates intentionally choose not to report particular specific information or even the general fact that they are applying. Some candidates may not report ethnicity information, for example. In addition, while most faculty candidates just completed graduate degrees or postdoctoral research positions, a small number are more senior faculty or researchers at other schools or labs. A senior candidate, such as one who already has tenure at another institution, may not to reveal that an application is being made (e.g., to avoid friction at the current institution until the and unless the application results in an offer) and may ask that the visit be publicly recorded as a general seminar, rather than a job interview.

These issues complicate **reporting**. Questions that might appear direct, such as "how many positions were available this cycle and how many minority candidates were invited to interview?", may be difficult to make precise. For example, if the administration offered a department three positions over two years, there may not be a definite answer for how many positions were available the first year alone, and if a senior candidate applied, the number of interviews may contain private information.

### **Faculty Recruiting and Diversity**

Faculty hiring and employment are governed by applicable laws relating to civil rights and workplace discrimination, such as Michigan's [Elliot-Larsen Civil Rights Act](#) (at the state level) and Title VII of the [Civil Rights Act of 1964](#) and [Executive Order 11246](#) (both at the federal level). Like the Michigan constitutional provision discussed above, these state and federal laws prohibit discriminatory hiring processes (e.g., based on race or gender). Instead, there is a focus on producing a broad applicant pool that has as many excellent candidates as possible from all backgrounds.

To that end, search committee members are required to complete special training, such as the [STRIDE Workshops](#) offered by the ADVANCE Program, which “provides information and advice about practices that will maximize the likelihood that diverse, well-qualified candidates for faculty positions will be identified, and, if selected for offers, recruited, retained, and promoted at the University of Michigan”.

### **Faculty Recruiting Statistics**

In the 2019-2020 Academic Year, CSE received 347 applications for faculty positions. Only 65 of those 347 applicants (18%) chose to provide self-reported demographic information. Of those, 85% (55/65) reported as male and 15% (10/65) reported as female. We invited 37 of those 347 applicants (11%) to interview. Of the 37 interviewees, 22% (8/37) identified as female. CSE extended job offers to 21 candidates: 71% (15/21) male and 29% (6/21) female. Of those, [11 candidates accepted offers](#): 3 identified as female and 8 identified as male.

For the 2019-2020 Academic Year, of the 65 of 347 applicants reporting demographic information, we also present race/ethnicity breakdowns. 56.9% (37/65) were Asian, 36.9% (24/65) were White, and 1.5% (1/65) were Black. No applicants reported other races or ethnicities (e.g., Hispanic, American Indian, etc.).

### **Faculty Recruiting Context and Discussion**

Some have suggested that CSE might implement something akin to the [“Rooney Rule”](#) for faculty hiring, in which at least one minority candidate must be selected to be interviewed during each faculty search cycle. This approach is not legally permissible, but the situation is also complicated by low total numbers and low ethnicity reporting rates. Given the low total numbers of interview candidates with reported ethnicities, providing evidence that at least one individual from each of various underrepresented groups was interviewed could be misinterpreted as [tokenism](#). Instead, search committees can take steps to broaden their outreach efforts to promote greater diversity in their applicant pools. In addition, job postings can require a commitment to DEI, as reflected in scholarship, teaching or service, and for search committees to use the strength of a candidate’s rating on that criterion as a factor.

As a broad point of comparison, the 2019 CRA Taulbee Survey reports that 20% of CS Ph.D. degrees granted in 2019 were received by female students. While not all faculty candidates are new Ph.D.s, 22% of CSE’s interviewees for faculty positions identified as female, which is aligned with the national average.

Care must be taken when interpreting minority ethnicity information. If 0.9% of Ph.D.'s produced nationally were awarded to Black or African American students (13 such degrees from hundreds of schools in 2019), hiring cycles in which Black candidates were interviewed (such as the 2018-2019 Academic Year) would appear significantly above that average, while cycles in which no Black candidates were interviewed would appear below that average. Pipeline concerns and small-number reporting difficulty do not eliminate responsibility: it remains incumbent on CSE to ensure that the applicant and interview pools are as broad as possible.

## **CSE Sentiment**

In February 2020, CSE conducted a survey related to climate and received 434 responses from community members. The survey was formulated in response to more ad hoc Town Hall discussions.

Actions to protect students during conflicts, increase capacity in upper-level electives, reducing overcrowding in office hours, hire more teaching-focused faculty, increase transparency in processes, improve laboratory culture, promote positive student-to-student interactions, combat the culture of overwork, and provide wellbeing support were ranked as the most critical.

In addition, addressing GPA and waiting list policies that disproportionately impact certain groups, expanding our inclusive teaching training, providing support for students retaking courses, and providing information about career options were ranked higher by underrepresented minority participants and participants not identifying as men.

While the survey focused primarily prioritizing actionable items to tackle climate and DEI issues, it also included a few sentiment questions. These questions were on a 1-5 Likert scale (e.g., “5” was “Very Satisfied” or “Strongly Agree”, as appropriate, etc.).

First, regarding climate, the mean perception was quite low. For the question:

- How satisfied are you with the climate at Computer Science and Engineering?

The mean CSE participant response was a 2.6, compared to 3.6 for the engineering responses to the 2017 All Campus Climate Survey (see Table 9 of that report). In the 2017 All Campus Climate Survey, 68% of those in Engineering said they were “Very Satisfied” or “Satisfied” (see Table 4 of that report), a 4 or 5 on this scale. In CSE’s survey, only 32% reported a 4 or 5.

Second, regarding feelings of fairness and equity:



- I am treated fairly and equitably by my peers in Computer Science and Engineering.
- I am treated fairly and equitably by faculty in Computer Science and Engineering.

In the CSE survey, about 76% of responses indicated agreement or strong agreement with both questions. In the 2017 All Campus Climate Survey, 87% showed agreement or strong agreement (Table 13 of that report). There were no significant differences in perceptions of treatment by peers and faculty. However, regarding:

- I am treated fairly and equitably by staff in Computer Science and Engineering.

By contrast, 84% of CSE survey participants showed agreement or strong agreement regarding fair and equitable treatment by the staff.

Finally, regarding the question:

- I have to work harder than others to be valued equally at Computer Science and Engineering.

This question provides nuance on discrimination, the culture of overwork, and imposter syndrome. 47.8% of CSE responses showed agreement or strong agreement, compared to 25.5% in Engineering (Table 27 of the All Campus report), almost a two-fold increase.

We note that participants who did not identify as men gave much more negative responses. Their climate satisfaction mean was 2.39 (vs. 2.76 for men), with only 25% reporting a 4 or 5 (vs 38% for men). Similarly, they reported much worse treatment by peers and faculty (3.47 and 3.67 vs. 4.18 and 4.07 for men).

## **Climate and Diversity Activities**

CSE students, faculty, staff and community members organize a number of DEI, climate and outreach activities. These include both grass-roots activities that grew organically as well as CSE-wide or -sponsored actions.

## **Community-Wide Engagement**

In AY 2020, CSE organized its first ever Climate and Diversity **Town Hall** meetings. These Town Halls helped CSE hear concerns, ideas and proposals from students and community members, as well as providing a way to communicate information on related topics. Town Halls typically featured a

brief presentation by faculty, followed by questions asked or topics raised either directly or anonymously by participants and addressed by a faculty panel.

- In January, 40-45 participants attended CSE's [first town hall](#). The overarching theme was transparency and visibility into CSE processes.
- In March, 60 participants attended a CSE [graduate-focused town hall](#). Topics included the process for reporting misconduct, tensions between transparency and reporting, an address from the new interim chair, and a panel discussion (touching on protective actions, the role of the chair, toxic lab cultures, protecting against retaliation when reporting, challenges facing international students, and OIE investigations and the promotion and tenure process).
- In April, 70 participants attended a CSE [undergraduate-focused town hall](#). Topics included remote teaching under COVID-19, inclusive teaching training, equal opportunity in computing, student resources, and a panel discussion (touching on enrollment, demand and capacity; allegations of faculty misconduct; the EECS 203 workload; remote education and academic integrity; and major prerequisites).

In AY 2020, CSE organized its first [Climate Activities Survey](#). The **survey** was informed by issues raised by town hall participants. 434 responses from community members helped prioritize activities to improve climate and illuminated sentiment at the CSE level.

In response to the Climate Activities Survey, CSE created and coordinated a number of [working groups](#) around activities the community identified as medium- or long-term priorities. 11 working groups have official faculty sponsors. The most active **working groups** were those targeting *Effective Office Hours*, *Overwork & Mental Health*, *Lab Culture*, and *Inclusive Environment*. Active working groups typically held meetings every-other-week involving about a dozen participants (graduate and undergraduate students, one to two faculty sponsors, and one staff support member).

In addition to CSE-wide town halls, the CSE diversity lead and/or the CSE chair held or participated in **meetings with groups**. These typically lasted an hour and included introductory remarks followed by listening to concerns and question and answer periods. In AY 2020, meetings and participation included the undergraduate professionalism class (EECS 496, 400 participants), the Eta Kappa Nau honors society (HKN, 100 participants), the CSE staff (30 participants), the Society of Women Engineerings (SWE, roughly a dozen participants), and Out in Science, Technology, Engineering, and Mathematics (oSTEM, GoSTEM, roughly a dozen participants).

In June, EECS held its first two [Community Gatherings](#) to address issues related to Black Lives Matter protests, civil rights, racism, and equal opportunity in computing. The **community**

**gatherings** included brief discussions by faculty but focused on smaller “breakout sessions” in which groups could discuss their experiences, share resources, ask questions, and provide support. 60 participants attended the first gathering and 80 participants attended the second.

On June 19th, EECS held its first annual Juneteenth Celebration to observe the Juneteenth holiday marking the end of chattel slavery. The event was sponsored by CSE and ECE and organized with the Graduate Society of Black Student Engineers and Scientists (GSBES) and supported by Michigan Robotics. Over 300 participants attended the **Juneteenth Celebration**, which included singing of the Black National Anthem, reading the Emancipation Proclamation, the sharing of personal stories, and a proposal for change.

Starting in Summer 2020, CSE is conducting 10-15 minute individual face-to-face **check-in meetings** with all 440 current and matriculating graduate students. These meetings are designed to help us learn about the current graduate-level climate, identify students who might benefit from additional support, and hear from all students (including those, such as first-generation students or non native English speakers, who might not reach out to us).

### **CSE Program Activities**

In AY 2020, CSE acquired funding to **double office hours staffing** in introductory and core courses (EECS 183, 280 and 281). Office hours queues are a critical undergraduate climate concern. CSE has requested budgeting to continue and expand such efforts going forward.

In AY 2020, CSE expanded its inclusive teaching training for instructional assistants and graduate student instructors. **Inclusive teaching training** efforts were expanded to include all teaching assistants from multiple classes, including ENGR 101, EECS 183, 203, 280, 281, 376, 445 and 481. The ninety minute sessions include information on topics such as implicit bias, stereotype threat and imposter syndrome and include hands-on discussions.

CSE expanded its upper-level CS technical elective and capstone course Spring and Summer offerings for the first time. This included **more course offerings** of EECS 441, 481, 482, 484, 485 and 495. Waiting lists for upper-level computer science classes are a critical undergraduate climate concern.

In Winter 2020, CSE added **climate questions to course surveys**. One to three questions were added to the surveys students complete at the end of each semester for each course, including “I felt included and valued when working with other students.”, “I felt comfortable asking questions in class.”, and “How might the class climate be made more inclusive of diverse students?” CSE is analyzing the tens

of thousands of numerical data points and over 2,000 substantive freeform responses to guide course improvement.

In AY 2020, CSE installed physical and cryptographic **anonymous dropboxes** for community members to leave feedback or discuss climate concerns, as well as clarifying the reporting processes and which faculty and staff members are mandated to share information. CSE has received dozens of comments via these [anonymous mechanisms](#).

In AY 2020, CSE continued its diversity-focused [Rackham Faculty Allies](#) Speaker Series. The **speaker series** highlights computing for social good. Speakers meet with students and student groups and discuss career paths that are less commonly-discussed. Over 220 students and faculty attended, with over 90% of responders agreeing that the speakers helped them to better understand how to achieve their career, academic and research goals.

Starting in AY 2020, CSE first budgeted faculty and **staff salary and time** to support climate and DEI activities. This corresponds to about 30 hours per week and includes a staff member focusing on CSE-wide DEI coordination.

In AY 2020, CSE expanded the number of questions related to climate and DEI activities in **faculty annual reports**. Faculty annual report data is used by CSE when considering certain raises and awards. In addition, CSE is expanding on the ways in which faculty can voluntarily include certain structured DEI activities (such as attendance at [STRIDE workshops](#) and [CRLT Engineering workshops](#)) in **promotion and tenure casebook materials**. CSE continues to offer new faculty members monetary research award incentives to attend extended training. One medium-term goal is to see if faculty are applying what they are learning in such workshops in the classroom and to consider alternative ways to evaluate teaching.

### **CSE Associated Groups, Programs and Activities**

Many programs, groups and activities have a large number of student and faculty organizers; for brevity, we list a few contacts for each program and include links for more information.

The [AI4All program](#) features a two-week summer camp for high school students and open learning with a focus on Detroit. David Fouhey, among others, organizes the program.

The [African Undergraduate Research Adventure](#) (AURA) program is a research exchange for undergraduate students at the Addis Ababa Institute of Technology who [come to Ann Arbor for 12 weeks during the summer](#). Todd Austin and Valeria Bertacco, among others, organize the program.

The [Computing CARES](#) program aims to broaden participation in computing, particularly for women, through fundamental changes to how classes are taught. It organizes inclusive teaching training, community-building and survey activities. Valeria Bertacco and Amir Kamil, among others, organize the program.

The [CS KickStart](#) program is a [week-long introduction to computer science](#) for Michigan students with little to no experience. It includes hand-on coding instruction, meeting other students and career exploration. Audrey Ladd, Ania Dlugosz, Marina Askar, Rachel Holmes, Divya Ramamoorthy and Sydney Swider, among others, organize the program.

[EECS 198 “Discover Computer Science”](#) is a one-credit class aiming to introduce students to different aspects of CS. The class includes programming instruction, interaction with CS role models, mentorship, visit to local CS companies. Laura Biester, Laura Burdick, and Rada Mihalcea have introduced and taught the class. The class is open to all students, but encourages the enrollment of women and underrepresented minorities or anyone who is unfamiliar with computer science.

The [Explore Computer Science Graduate Studies](#) program helps undergraduate students understand and prepare for graduate school through an annual day-long workshop that includes application writing clinics and faculty panels. Nikola Banovic and Danai Koutra, among others, organize the program.

In AY2020, the [Explore Computer Science Research](#) program helped involve over 20 students, including women and underrepresented minorities, in the research process. Laura Burdick, Allie Lahnala, Danai Koutra, and Rada Mihalcea, among others, organize the program.

The [Girls Encoded program](#), which was designed to address gender underrepresentation in computer science and engineering, provides outreach and research mentorship for all interested students. Laura Burdick, Rada Mihalcea and others organize the program.

In AY2020, CSE ran a series of [Graduate Fellowship Workshops](#). The five workshops served about 50 students and provided application preparation. David Fouhey organizes the program.

CSE faculty are involved in the [M-STEM Academies](#), a summer program with co-curricular support to support students as they transition from high school to the first two years of college.

[Women in Computing](#) is a CSE seminar series that brings in distinguished women researchers to discuss their work and meet with faculty and students. The series was initiated and is frequently



organized by Rada Mihalcea. It traditionally includes a round-table with interested students.

In addition, CSE sponsors, mentors or otherwise supports and recognizes a number of student groups or programs that participate in climate- and DEI-related activities. These include, in brief summary:

- [Computing For All](#) – for any student seeking to support the participation of URM students in U-M computing programs
- [CSEG](#) – Computer Science and Engineering Graduate Students
- [ECSEL+](#) – Ensemble of CS Ladies+
- [EECS DEI Student Action Committee](#) – Undergraduates to Improve Diversity, Equity and Inclusion
- [ETC](#) – Engineering Teaching Consultant Program
- [GEECS](#) – Girls in Electrical Engineering and Computer Science
- [HKN](#) – Eta Kappa Nau, International Honor Society of the Institute of Electrical and Electronics Engineers
- [KTP](#) – Kappa Theta Pi, Co-Educational Technology Fraternity founded at U-M
- [oSTEM & GoSTEM](#) – (Graduates) Out in Science, Technology, Engineering and Mathematics
- [SWE & GradSWE](#) – Society of Women Engineers

CSE also coordinates with College of Engineering-level DEI activities, including the [COE DEI Committee](#) and Dean Alec Gallimore’s [Eating and Talking Sessions](#) for students.

Finally, while not a focus of this transparency report, CSE also conducts a number of longer-term DEI investigations. One example focus is identifying barriers to the success of transfer students, including lower socioeconomic status students and international students, who pursue computing majors. This includes both the [University of Michigan-Shanghai Jiao Tong University Joint Institute](#) transfer program and [transfer students from other backgrounds](#), such as local community colleges via the [Michigan Transfer Agreement](#). Harsha Madhyastha, among others, organizes this investigation.

## **Financial Commitments**

We also report resources allocated at the CSE level to climate and DEI activities. The 2019-2020 Academic Year was a bit different because of COVID-19 (e.g., some regular requests were not made this year because of remote education constraints). In general, over the last two years, CSE has fiscally supported:

- Sponsoring these organizations and supporting student travel and registration to their conferences: [Richard Tapia Celebration of Diversity in Computing Conference](#), the [Grace Hopper Celebration](#) highlighting women in computing, the [Society of Hispanic Professional Engineers](#) convention, the [National Society of Black Engineers](#) convention, the [Society of Women Engineers](#) annual conference, the [Computing Research Association Committee on Widening Participation in Computing Research](#). This travel support is above and beyond the general [Rackham Conference Travel Grants](#) available to all students for academic conferences.
- Salary support for Diversity, Equity and Inclusion-focused CSE staff activities and DEI leadership.
- Financial support for student groups such as the [Computer Science & Engineering Graduate Students at UM](#), the [Ensemble of CSE Ladies+](#), the [Graduate Society of Black Engineers and Scientists](#), [Out in Science Technology Engineering and Mathematics](#), the [National Society of Black Engineers](#), and Computing For All.
- Financial support for the [Explore Grad Studies in CSE](#) program and the newly-formed Student Wellness Committee.
- Wellness brochures and [anonymous feedback mechanisms](#).

Raw numbers can be difficult to interpret because they vary with the size of the department. For context, we use CSE Faculty Search as a point of comparison. Faculty Search includes travel and hosting reimbursements, staff time, seminar organization and similar activities, and is viewed as a core CSE activity typically involving 30-40 interviews each year. Each year CSE spends approximately **twice as much** on the climate and diversity activities listed above as it does on Faculty Search (compared to Faculty Search the year before COVID, to avoid conflating its reduction in travel). Spending money on processes does not guarantee desired outcomes, but this does indicate the relative fiscal importance of DEI activities to CSE.

## Report Summary

This report provides context, statistics, and discussions regarding Computer Science and Engineering in the Academic Year 2019-2020. The report covers undergraduate programs, graduate programs, faculty hiring, sentiment, larger- and smaller-scale activities and organizations, and commitments.

We plan to release such a report annually. Climate, diversity, equity and inclusion are important to everyone in our community, and a combination of measurement and sustained, collective effort are necessary for improvement.

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