IRIBE INITIATIVE FOR INCLUSION & DIVERSITY IN COMPUTING

2024-2025 Annual Report

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EXECUTIVE SUMMARY

In academic year 2024-2025, the Iribe Initiative for Inclusion and Diversity in Computing (I4C) served nearly 800 University of Maryland students and 400 local middle and high school students in our programs. In our current student programs, we saw a 26% increase in sense of belonging in computing and 96.5% retention in computing majors.

The 2024-25 academic year came with many transitions, including the launch of a new, more user-friendly website in December 2024. We are also in the process of refining our program evaluation process and diversifying our funding sources and will soon share announcements and updates.

MISSION, VISION, GOALS

Mission: The Iribe Initiative for Inclusion and Diversity in Computing (I4C) aims to create a supportive, vibrant and inclusive community of students, educators and researchers coming together to increase the involvement and success of individuals from underrepresented groups in computing.

Vision: We envision a diverse tech sector where all areas of computing are inclusive of all individuals from historically marginalized populations in computing.

Goals: We endeavor to:

1. Support, educate and mentor undergraduate and graduate students from populations underrepresented in computing through social, academic and professional programming
2. Collaborate with the K-12 community to encourage all students, especially those from underrepresented groups, to become creators and leaders in the computing and technical workforce
3. Conduct groundbreaking computer science education research to identify and implement data-driven practices that acknowledge and address disparities in the field
4. Build bridges between faculty, staff and students in all computing units, creating pathways for interdisciplinary careers, research and student support to diversify the tech sector

CURRENT STUDENT OUTCOMES

I4C supports, educates, and mentors undergraduate and graduate students from underrepresented populations in computing through social, academic and professional programming.

Participation

Nearly 800 undergraduate and graduate students participated in I4C programs, and about 1,300 students and UMD community members attended our signature events.

CURRENT STUDENT PROGRAM PARTICIPATION	
Program	**# of Participants**
Career Launch	78
Conference Scholarships	128
Guild (now TechStart)	67
Mentoring Program	50
RESET Scholars	44
Sprinternship	64
Tech + Research	45
Tutoring*	300
SIGNATURE EVENT ATTENDANCE	
Event	**# of Attendees**
Tech Block Party	710
Diversity in Tech Celebration (Fall 2024)	47
Diversity in Tech Celebration (Spring 2025)	389
Career Prep Workshops	150+

** 2024-25 is the last year that I4C will run the Tutoring Program for computer science courses.*

Belonging

I4C conducts pre- and post-surveys before and after each program to gauge sense of belonging in the computing field and assess net promoter scores (i.e., the likelihood that the respondent would recommend the program). The table below indicates that our programs, on average, led to a **26% increase in sense of belonging**, with an average **9.2-star rating out of 10** among all program participants. In 2024-25, we did not conduct pre- and post-survey evaluations of our Mentoring or Tech + Research programs; however, we intend to do so in the future.

Program	Percent Increase in Belonging	Net Promoter Score (Average)
Career Launch	20.45%	8.3/10
Conference Scholarships*	38.46%	8.7/10
Guild (now TechStart)	20.14%	9.3/10
Mentoring Program		
RESET Scholars	30.7%	10/10
Sprinternship	21.28%	9.7/10
Tech + Research		

**In 2024-2025, only Grace Hopper Conference Scholarship recipients were surveyed.*

Retention

To assess program impact, we measure student retention in computing majors at UMD. Computing (or CIP Code 11) majors include computer science, geographical sciences, information science, immersive media design, information systems, social data science and technology and information design.

In the table below, we examine retention after year 2 (sophomore year) because this is typically the time that students consider transferring majors and programs. According to advisors in the Department of Computer Science, data on the retention of second-year students is of special interest. Among all students in our computer science, information science and information systems programs, we see a 96.5% retention rate in computing majors, though this includes students who have transferred from one computing major to another. Other computing majors are either too new or do not yet have enough students enrolled to measure retention.

Data for all students (the second and third columns below) compares the declared majors in computer science, information science and information systems degree programs in Fall 2022 to Fall 2024. For students in I4C programs (the fourth and fifth columns below), Fall 2022 major retention rates are compared to Spring 2025 rates. Please note that I4C data also includes self-reported demographic data that may differ from university reporting. In future annual reports, we hope to compare the data more directly and expand our analysis to additional demographic groups. The following table indicates an especially high rate of retention for information science students and those who identify as BLNA (Black, Latina, Native American) women in I4C programs. We hope to better understand the causative factors for these results to better replicate the outcomes.

Degree Program	Retention Rate after Year 2: All Women	Retention Rate after Year 2: BLNA Women	Retention Rate after Year 2: Women in I4C Programs	Retention Rate after Year 2: BLNA Women in I4C Programs
Computer Science	95.74%	84%	92.22%	88.8%*
Information Science	85.71%	66.67%	87.5%	100%
Information Systems	100%	100%	100%	N/A

**Of the 18 BLNA women who entered the computer science major in Fall 2022, 16 remain as of Spring 2025. I4C data includes self-reported demographic data that may differ from University reporting.*

Our programs are designed both to retain students in computing majors and encourage students in non-tech majors to transfer into or add a computing major. One opportunity for future years is to better understand the impact of our programs on these students.

Job/Internship Placement Rates

Our job and internship placement survey is distributed annually to all students participating in I4C programs over the past year. This serves to gauge how successful students in our programs are at securing jobs and internships.

In the 2024-2025 academic year, based on data from 357 students, at least 50% secured a computing internship. Additionally, 42% of students secured a full-time computing job offer or position. We hope to further investigate the relationship between our programs and career outcomes in future years.

K-12 OUTCOMES

I4C collaborates with the K-12 community to encourage all students, especially those from underrepresented groups, to become creators and leaders in the computing and technical workforce.

Participation

- 233 campers participated in our 2024 K-12 Summer Academy programming through AI Summer Academy, Create Tech, CompSciConnect and Secure IT
- 85 Girl Scouts attended a workshop to earn a coding badge.
- 104 high school women and 2 educators were recognized with Maryland Aspirations in Computing Awards by NCWIT Aspirations in Computing

Retention and Confidence in Computing: CompSciConnect

CompSciConnect is I4C's longest-standing Summer Academy program. The three-year non-residential summer program typically begins with rising 6th graders. Undergraduate students serve as near-peer instructors, teaching Summer Academy participants more advanced skills each summer and meeting with them monthly throughout the school year to maintain those skills. This past summer, 75% of the 2023 cohort returned for summer 2024.

We are evaluating new assessment techniques, including interviews, to better capture feedback for students in this age group. Our initial results from surveys in summer 2024 garnered eight responses from students in the CompSciConnect Terp program. In post-program surveys about their experience and takeaways from the program, all eight respondents indicated they were "Confident" or "Very Confident" in their ability to learn new computing concepts. The respondents listed JavaScript, coding, and game development as the most exciting concepts/skills they learned during CompSciConnect.

Long term, we plan to develop standardized survey, interview and focus group protocols to better understand longitudinal outcomes for students in our K-12 and undergraduate programs.

RESEARCH

I4C team members conduct groundbreaking computer science education research to identify and implement data-driven practices that acknowledge and address disparities in the field. To date, our team has published 19 different research papers, posters, and articles on the impact of our work.

By attending and presenting at national conferences such as SIGCSE, AERA, Tapia, and RESPECT, the center continues to identify and implement high-quality and data-driven practices that acknowledge and target disparities in computer science based on students' gender identification, race, ethnicity, socioeconomic status, sexual orientation, and/or disability status.

The following research was published in 2024-2025. I4C team members are in bold.

"Intergenerational DetAIctives: Connecting Older Adults and Undergraduates for Community-Driven Generative AI Exploration"
Tamara Clegg, Amanda Lazar, Caro Williams-Pierce
Selected for a 2025 AIM Seed Grant

"Challenges and Opportunities in Structuring and Facilitating an XR-focused Co-Design Program for Black and Brown Middle School Boys"
Akhil Gurram, Clayton Felder, Brian Gardner, Elizabeth Bonsignore, **Tamara Clegg**, Elana Blinder
Presented at the Human-Computer Interaction Lab 42nd Annual Symposium

"The Future of AI Education Depends on Student Voice"
Charlotte Avery, Kristina Kramarczuk, A. Smith, Kate Atchison, Tamara Clegg
Paper accepted at 2025 Annual American Education Research Association Conference

"Quack! Configuring Large Language Models to Serve as Rubber Duck Coding Assistants"
Elias Gonzalez, Joel Chan, **David Weintrop**
Poster accepted at SIGSCE 2025

FEATURES & RECOGNITION

I4C's communications team and our partner communicators in other campus units share the story of our inclusive computing community in web articles, social media content, and other media. These features and recognition remain important to expanding our reach and furthering our mission. In addition to these web articles, I4C posts regularly on LinkedIn and Instagram.

- Maryland Today
  - A 'Nerd Sleepover'—and Much More
- College of Computer, Mathematical and Natural Sciences
  - Clubs, Code and K-pop
  - Learning by Doing
  - UMD's Technica Hackathon Commemorates 10 Years of Empowering Underrepresented Genders in Tech
  - UMD Women in Tech Gathered at 2024 Grace Hopper Celebration
  - Tamara Clegg Named Director of UMD's Iribe Initiative for Inclusion and Diversity in Computing
  - Kids Jump into Science at UMD
  - Examining Data Science Through an Equity Lens
- College of Information
  - UMD Women in Tech Gathered at 2024 Grace Hopper Celebration

    - Tamara Clegg Named Director of UMD's Iribe Initiative for Inclusion and Diversity in Computing
- Department of Computer Science
    - Women Lead Robotics at Maryland for the First Time in Club's History
- University of Maryland Institute of Applied Computer Science (UMIACS)
    - TRAILS AI Summer Academy Empowers Future AI Innovators
- QUEST Honors Program
    - Three Weeks of Impact: Break Through Tech's Sprinternship Program

FACULTY & INDUSTRY INVOLVEMENT

Faculty and industry volunteers provide mentorship and perspective to our students, helping them understand and aspire towards research, academic, and career opportunities.

In the 2024-25 academic year, 48 industry volunteers from 15 organizations supported key I4C programs, including 27 in our Mentoring Program and 21 in TechStart (formerly known as Guild). Industry volunteers typically provide coaching and professional development to students.

Nine faculty members led Tech + Research projects, which involved developing small research projects that represent an extension of their work, and coaching a group of students to complete projects in the course of a weekend during the Technica hackathon. Five faculty members and their graduate assistants spoke with AI Summer Academy campers about their artificial intelligence research.

SUPPORTERS & FUNDING

I4C's work would not be possible without the time and resources provided by industry partners. While partnering benefits include recruiting and brand awareness opportunities, most of our partners are drawn to the opportunity to engage with and support students in I4C programs.

We would also like to thank the following campus units for their contributions towards special events and programs:

$9,200 – Department of Computer Science
$14,000 – College of Information
$4,200 – College of Computer, Mathematical, and Natural Sciences

In addition to single-use event funding, the Department of Computer Science and the College of Information provide general support funds toward I4C operations. As we mature and sustain our programs, we look forward to re-envisioning a collaborative support structure with multiple campus units that builds on the generous funding of our donors.

Additional Financial Support

- Corporate Partner Support/Alumni Giving – ~$49,000 for 2024-2025
- $35,000 yearly from AFCEA Bethesda
- Over $40,000 yearly from the Department of Defense research lab, Laboratory Telecommunication Science (LTS), earmarked for computing education research
- $500,000 from Reboot Representation for RESET Scholars in 2023
- $2.9 million grant from Break Through Tech in 2021
- $1,000,000 gift from Brendan Iribe to launch I4C in 2019
- Registration Fees for summer programs and workshops
- Various gifts and grants from NCWIT, NSF and more