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Education, Energy, and
Environment Committee

Chair, Joint Committee on
Cybersecurity, Information Technology
and Biotechnology

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Testimony in Support of SB0980 Education - Computer Science - Content Standards and Requirements

March 6, 2024

Chairman Feldman, Vice-Chair Kagan, and members of the Education, Energy, and the Environment Committee:

Thank you for your consideration of Senate Bill 980, which seeks to bolster and provide equitable access to computer science education for all students in Maryland's K-12 schools.

In 2018, we passed HB281, which required public high schools to offer at least one high-quality computer science course beginning in the 2021-2022 school year. Uploaded alongside my testimony on your floor system, you will find a presentation that highlights some of the key data points gathered since that deadline.

Currently, 95% of high schools offer computer science courses, but less than 14% of high school students enroll in these courses before graduating[1]. The fact that a course is listed in the school catalog does not mean the course was actually offered. Courses are cancelled due to low enrollment, which happens most often with elective courses. Course offerings for electives are dependent upon student interest, teacher availability and scheduling, hence the likelihood of overreporting. This poor enrollment rate can be attributed to low computer science engagement in K-8 classrooms. According to a MSDE self-reported survey of schools, only 23% of elementary students receive more than one hour of computer science instruction a month.

HB281 also established the Maryland Center for Computing Education (MCCE) with the goal of identifying methods to increase access to high-quality computer science education and close the digital divide. Today, SB980, incorporates recommendations from the MCCE and a number of other key stakeholders and will improve and expand our state's current computer science education efforts by:

[1] https://mldscenter.maryland.gov/ComputerscienceDashboard.html

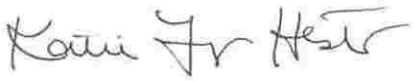
- Requiring each public high school, elementary, and middle school to offer at least one developmentally appropriate, high-quality computer science course, meeting or exceeding the MD K-12 Computer Science standards.
- Diversifying enrollment in middle and high school computer science courses in college and career ready (CCR) pathways, including female students, students with disabilities, students of ethnic and racial minorities, and other demographic groups that are underrepresented in the computer science field as identified by the Equal Employment Opportunity Commission.
- Requiring the State Board to update the computer science framework every 3 years to ensure that instruction is consistent with recent advances in computer science, particularly in the areas of fast moving technology such as Artificial Intelligence and cybersecurity.

These investments in computer science will yield enormous economic and societal benefits:

- Computer science is the fastest-growing, best-paying, and largest source of new wages in the United States, with an estimated 377,500 new job openings every year.
- Early exposure to computer science has a significant and long-term impact on executive functioning skills, problem-solving, creativity, emotional intelligence, mathematical abilities, and metacognition.
- Underrepresented students who experience computer science courses early in their education are more likely to enroll in subsequent computer science courses, promoting diversity within the field. [2]
- Students who take computer science courses at a young age are 17% more likely to pursue a college degree. [3]

By introducing computer science early in childhood education, Maryland takes a proactive stance towards building a skilled workforce and fostering diversity in the computer science field. **For these reasons, I respectfully request a favorable report on SB0980.**

Sincerely,



Senator Katie Fry Hester
Howard and Montgomery Counties
Senate Chair, Joint Committee on Cybersecurity, Information Technology & Biotechnology

[2] https://advocacy.code.org/2022_state_of_cs.pdf
[3] https://psycnet.apa.org/doiLanding?doi=10.1037%2Fedu0000314