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State of Connecticut

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Good Morning Co-Chairs McCrory & Sanchez, Ranking Members Berthel & McCarty, Vice-Chairs Abrams & Barry, and esteemed members of the Education Committee:

I am James Maroney, and I recognize the 14th state senate district, and I am testify in favor of SB 957, AN ACT CONCERNING THE INCLUSION OF COMPUTER SCIENCE INSTRUCTION IN THE PUBLIC SCHOOL CURRICULUM, PROGRAMS OF TEACHER PREPARATION AND IN-SERVICE TRAINING PROGRAMS FOR TEACHERS, and to make suggestions for improving the bill.

I want to thank you for raising the concept. Digital Literacy is an essential need for our students, and expanding our computer science workforce is key to the future of our state. I first became interested in expanding computer science education back in 2014, when I learned that after many companies in the Yale Entrepreneurial Institute received venture capital funding, they were told that they had to leave Connecticut. They were told so not because of taxes or cost of living, but because at that time we didn't have enough entry level computer coding talent. In fact, I was at a meeting recently where someone spoke of a study that was done of 45 companies that were stated out of the Yale Entrepreneurial Institute, and half left the state while half stayed. The top reason cited by companies for leaving was transportation, and the second issue was lack of talent.

In fact, at that same meeting I learned that we currently have 7,000 computer science job openings in the state of Connecticut. Some estimates have said that there are almost 1 million open coding jobs in the United States now. In 2017, there were over 500,000 job openings, and only 50,000 CS graduates to fill those jobs. This is an economic development issue for our state and our country.

More important, it is about providing opportunities for our students. Many of our topy jobs today, didn't exist a mere 10 to 15 years ago. We are projected to lose 5 million jobs due to automation, yet this will create new jobs in programming and controlling the automation. Teaching students Computer Science will help them effectively "learn a living" as the traits that make you a good computer coder, help in any profession: problem solving, critical thinking, creativity. Further, Code.org has studies showing that students who utilize code.org activities and have a resourceful teacher showed score improvements on all areas of the Florida State math, science, and English Language Arts standardized tests. In addition, I had the opportunity to listen to Hadi Partovi speak at a conference, and students who took computer science classes rated computer science as their 3rd favorite class, after Gym and art.

In his inaugural address, Governor Lamont stated that it was a time for big ideas. With that, I would encourage the committee to think big when it comes to expanding computer science and digital literacy education opportunities for our students. Code.org has a recommendation for nine policy ideas to make computer science fundamental to K-12 education: Create a state plan,

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define computer science and establish rigorous standards, allocate funding for professional learning and course support, implement clear certification pathways, offer computer science to preservice teachers, establish dedicated CS positions in state education agencies, require that all secondary schools offer computer science, allow computer science to satisfy a graduation requirement, and allow computer science to satisfy an admission requirement at state universities. According to a state score card, we currently have implemented 2 and a half of those 9.

I would recommend that we follow the lead of our neighbor Rhode Island, who created a CS4RI plan that has had tremendous success. In one year they went from 90 to 241 CS programs and from 42 to 247 students who took the AP computer science exam. They also hold an annual summit that brings together industry, educators, and students. In 2017 1,700 students engaged in the CS4RI Summit, and 100% of traditional school districts offered CS opportunities.

I realize that given the current fiscal climate, we must be cognizant of the costs of implementing any new program. However, given the importance of this issue both for our state's workforce and job opportunities for our students, I fear that the cost of not acting is far greater. I would be happy to answer any questions, and I would welcome the opportunity to work with the committee on the language for this bill going forward.