Introducing *XCelero:*

Five students founded Xcelero, a non-profit organization designed to bring computer science to underprivileged students in local schools.

Om Agarwal ('25) **Edward O'Dwyer ('24)** **Matteo Salloum ('24)** **Ishaan Sareen ('24)** **Yifei Yan ('24)**

Ruby Rogers | Staff Writer

Om Agarwal ('25), Edward O'Dwyer ('24), Matteo Salloum ('24), Ishaan Sareen ('24) and Yifei Yan ('24) founded the non-profit computer science organization XCelero in the fall of 2022. The program currently functions as a community partnership at Harris Academy, teaching children computer science through different programs, lessons and projects.

Sareen said he was inspired to form the organization to promote computer science to other students.

"I know how much being exposed to computer science and engineering within ASL has helped me discover who I am, my passions, and the things I want to do beyond ASL," Sareen said. "We wanted to find a way to make a difference in our local community to allow students who may not have access to computer science to access some sort of material that may inspire them."

In addition, Yan said a main issue that motivated the founders to start XCelero was the lack of computer science education and interest in the U.K. compared to the U.S.

"After comparing the stats of the number of British students who took computer science A levels versus the number of American students who took computer science APs, we very quickly identified that there's a decently large disparity between the interests of computer science in the U.S. and the U.K.," Yan said. "We wanted to target as many people as possible and hopefully reach people who wouldn't traditionally be interested in computer science."

Furthermore, Agarwal said XCelero aims to introduce computer science skills to children at an early age so they can explore the field prior to creating their class schedules.

"Right now we're focusing on the pre-GCSE age range," Agarwal said. "We do want to expand our age range further, but we feel like this age range is really important

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– Ishaan Sareen ('24)

because this is when students ... make the decision as to whether or not they want to actually study computer science or even take the computer science GCSE."

Director of Community Action Brandon Block assisted the five co-founders in establishing XCelero as a community partnership and reaching out to other schools for continued expansion.

Salloum said the organization strives to deliver lessons to local youth communities that lack access to the subject.

"XCelero aims to improve computer science education by creating curriculums that allow students that don't normally have access to those opportunities to experience the wonder of computer science," Salloum said. "We have curriculums relating to mobile app creation and processing... and we've done programs relating to teaching kids Java."

Specifically, O'Dwyer said XCelero currently has two curriculums, one teaching app development for beginners, while the other focuses on processing for more advanced students.

"We have the curriculum on processing, which is a library on Java where you collect art, and then we also have a platform called Thunkables, which uses barcoding, so that's a more entry-level, easier-to-digest course," O'dwyer said. "Kids get to make their own apps and it's really fun to watch and see what they make. There are some really unique ideas."

Salloum said the co-founders drew on their prior skill and education in order to create the curriculum with the help of Computer Science Teacher Frederick Choi, XCelero's faculty sponsor.

"We wanted to create a curriculum that would allow people to be motivated," Salloum said. "We use our past experiences and what motivated us to learn to think about what would motivate other kids to learn."

O'Dwyer said starting as a community partnership with Harris Academy was an important step, as it allowed XCelero to launch and start establishing relationships with other schools.

"It was really about having a base platform which you can expand from," O'Dwyer said. "Without one of these, no one's gonna trust you or want to work with you. Trying to get things started, that was the hardest thing."

However, O'Dwyer also said the group faced logistical challenges.

"There are also a couple of complications with working with other schools," O'Dwyer said. "They'll have certain restrictions as to what platforms you can use to actually teach your kids and what websites or applications they can't or can use."

Agarwal said all five founders share a passion and belief in the power of computer science, which they bring to the organization.

"We're focusing on teaching computer sciences as we feel like it's an essential life skill that's going to be relevant in many jobs in the future," Agarwal said. "So, we want to ensure that the students today have a good understanding."

In addition to promoting computer science to young British students, Sareen said a driving value of XCelero is increasing diversity in STEM fields.

"Cultivating a diverse and inclusive space within the community is incredibly important for the success of the field," Sareen said, "XCelero is passionate about a similar message of spreading diversity and inclusion within STEM in general."

Furthermore, Agarwal said XCelero works with an audience of diverse genders, races, religions and socioeconomic statuses.

This year, Salloum said XCelero will continue to function as a community partnership with Harris Academy, furthering its purpose of fostering students' interest in computer science.

"We really believe in what we're doing and we really believe that the sort of student-oriented focus, where the students have more agency over what they create, really fosters a greater love for the subject," Salloum said. "We really hope that the path XCelero initiated continues onward."

Forming XCelero

Spring 2022
XCelero founders start looking for problems in the local community and ways they can make an impact.

Summer 2022
The founders discover a disparity between computer science APs taken in the U.S. and computer science A Levels taken in the U.K., which is connected to the lack of hands-on computer science education in pre-GCSE testing.

Summer 2022
The founders establish a mission to bring computer science resources to local communities and empower students with computer science knowledge, skills and passion.

Fall 2022
The founders work with Director of Community Action Brandon Block and Computer Science Teacher Frederick Choi to establish XCelero as a community partnership with Harris Academy.

Fall 2022 – Fall 2023
The community partnership sucessfully runs for two seasons.

Currently
XCelero continues to develop, establishing more curriculums and an online presence to improve outreach.

To view XCelero's website, scan here:

Graphics by Eva Marriott-Fabre

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