Even though Kenny has accomplished all of the above in his last three years at YSU, he is not stopping there. He is participating in undergraduate research with Dr. Yu in the CSIS department, and he has managed to land another internship for the coming summer at J.P. Morgan Chase and Co.

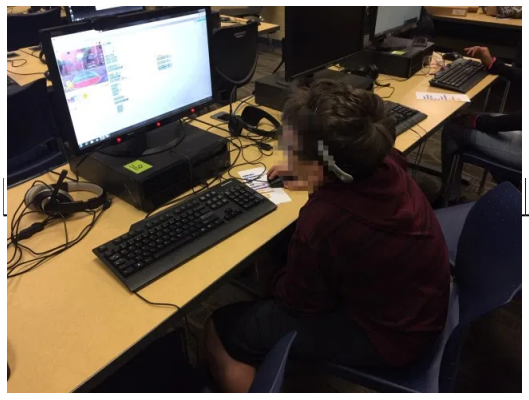
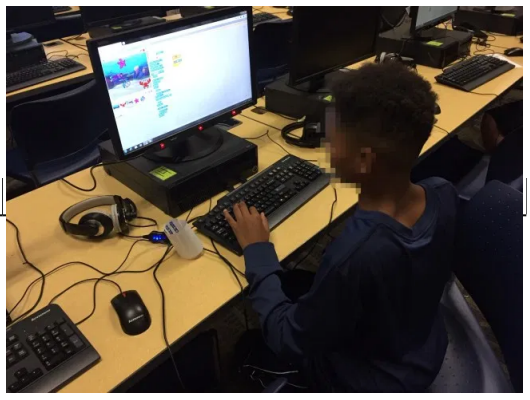
Kenny has some important words for all STEM students to consider when it comes to getting internship experiences: “During my Freshman year, I interviewed for a software engineering internship position at Google and was ultimately rejected. It was very discouraging, and it made me feel like I wasn’t smart nor skilled enough to work at those competitive large companies. Despite this, I made an extreme effort to make my skill set as competitive as possible and, through work, it has definitely paid off. Had I given up my Freshman year, I certainly would not be in the position I am in today.”

YSU STEM loves to highlight student achievements and experiences! Please email us about students who have accomplished great things at STEMNews@ysu.edu so we can get the word out about our exceptional STEMguins!

NOVEMBER 27, 2018

YSU Students and Faculty Bring Computational Thinking Into the Classroom

As our society becomes more technologically-driven, many middle schools and high schools are finding new and interesting ways to implement tech education into their curriculum. Youngstown is no exception to this rule, as some YSU STEM students are working with Computer Science professor Dr. Abdu Arslanyilmaz to bring computer education to K-12 students around the Youngstown area and beyond.

It all started when Dr. Arslanyilmaz worked with faculty from the Colleges of STEM and Education, along with personnel from Youngstown City Schools, to implement a K-12 program that combined entrepreneurship and coding. The current program, being implemented at Volney Rogers Middle School, involves teaching students a very important subject: computational thinking (CT). “Computational thinking is not computer science, but rather a way of thinking like a computer scientist. This way of thinking helps students solve problems, better understand situations, and better express their values using fundamental coding techniques such as abstraction, decomposition, algorithmic design, generalization, and evaluation,” said Dr. Arslanyilmaz.

While the program is currently only implemented at Volney Rogers, Dr. Arslanyilmaz and the STEM students working with him have set a goal to expand the program, and their plan to do so is already in action. Alongside their work teaching the middle school students, the team also performs extensive research surrounding CT education. They plan to use the data obtained from their research as pilot study results in a future grant application to the National Science Foundation (NSF), to help them apply their program in a much larger scale.

An active contributor to the research portion of this project is Kendra Corpier, a graduate Computer Science student at YSU. A large portion of the research stems from the use of eye-tracking devices. “I developed the software we are using in C-Sharp with Visual Studio in order to simultaneously record the screen that the student is using, while also tracking the x and y coordinates of the student’s eye gaze. The eye trackers use a retina tracker to track what the user is looking at on the monitor,” Ms. Corpier explained. This student has a particular passion when it comes to CT education, and she wishes to expand the scope of education by making it an enjoyable experience for students. “Some of the research I would like to do in the future has to do with eye tracking in education, so I can find ways to better develop educational games that don’t seem educational, allowing students in k-12 environments to learn better and hopefully faster,” said Ms. Corpier.

To further explain the process of the team’s research, Dr. Arslanyilmaz elaborated, “We came up with an algorithm to calculate focus scores for the students, and are planning to use that score to investigate what contributes to fluctuations in their focuses, and if their focus scores can be used to create personalized feedback to improve their motivation”.

Another person who is actively involved in this project is Nicky Labrie, an undergraduate Computer Science student at YSU. He teaches the basics of CT to two classes of students at Volney Rogers Middle School every Friday of the week. “Young children are more

capable of doing programming and understanding computer logic than most people think, in the same way that kids learn a second language faster than most adults," Mr. Labrie explained, "I believe this course is a good introduction that some kids need at this age to help them later in life, regardless of if it leads to a STEM career".

While the current goal of the group is to complete their program at Volney Rogers, their more long-term aspiration is to develop their eye-tracking method to be as accurate as possible, and to push for CT education for every K-12 student. "Computational thinking is an essential 21st century skill for all students to productively participate in today's world and make informed decisions about their lives," said Dr. Arslanyilmaz.

Read more about the group's accomplishments here.

To learn more about YSU's Computer Science and Information Systems Department, visit their site here.

MAY 22, 2017

Recent Graduate Jenna Wise Awarded NSF Fellowship

Jenna Wise, a recent computer science and mathematics graduate, has been awarded a 2017 National Science Foundation Graduate Research Fellowship. 2,000 STEM students nationwide were awarded out of a pool of more than 13,000 applicants.

The fellowship program recognizes students for their academic efforts while pursuing a research-based, graduate-level degree in science, technology, engineering, or mathematics.