Vex IQ Online Challenge 5164C

Health Informatics Technology

By Maria and Laleh ...

Health Informatics

Health informatics is a field where they use technology, data analytics, and clinical skills to improve the quality of healthcare. This field is improving the healthcare industry by using software and hardware technology to create electronic records, ensure safety, and finding trends in the healthcare industry.

COVID - 19

We are currently living through a global pandemic caused by COVID-19. This pandemic has caused many problems with people who need healthcare because of social distancing and having to stay home. People are getting sick and they can't go see their doctors as they normally would. Health informaticists have developed ways for people to see their doctors over the computer, which is important because it allows people to stay safe and healthy.

A robot helps take care of patients in the hospital.

A nurse checking a patient on Zoom

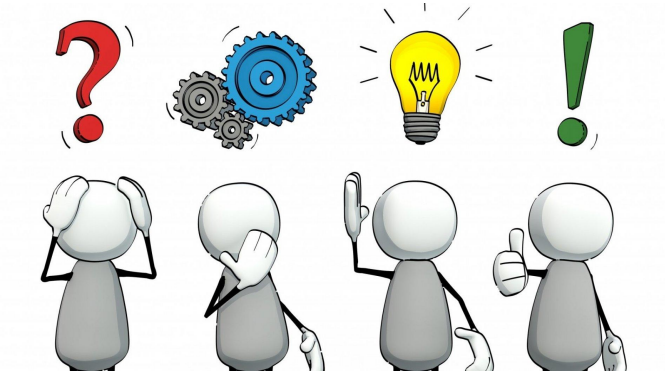
COVID - 19 (Cont.)

The Governor of California requested the opening of more hospitals to care for COVID-19 cases. Health Informatics Professionals played a vital role in the opening of these hospitals. One of these hospitals was LA Surge Hospital (LASH). This hospital was opened for COVID patients.

St. Vincent Medical Center was a closed hospital that the county of Los Angeles opened to take care of Covid-19 patients.

We Chose This Field Because...

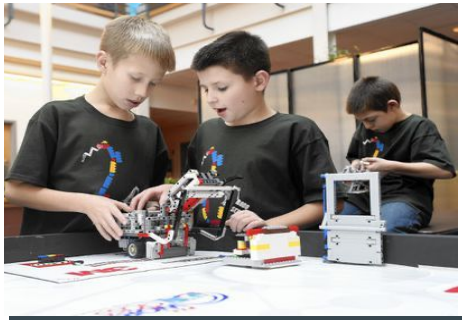
We both have a passion and interest for the world of programming, technology, healthcare and science. Health informatics technology includes many of our interests, which is why we chose this field for our STEM career project. This field is important because it designs and creates new technology, such as robots and apps that help improve healthcare and patients' health. We can be part of the future team to prevent any upcoming pandemics with our ideas, designs, and new technology.



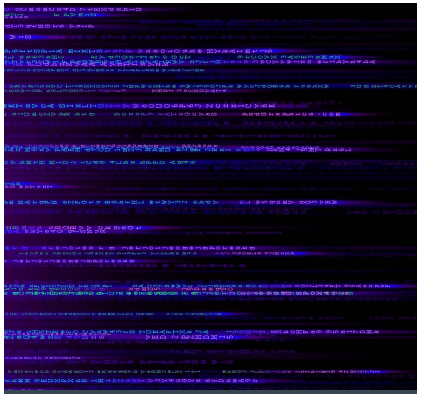
How will competitive robotics prepare us for this field?

Competitive robotics has taught us about programming, building robots, research, testing, presenting, and teamwork. We both feel that these skills are a part of being successful in this field. You must build robots and other mechanical items in robotics, which is also done in this field.

Competitive robotics requires teamwork! Everyone works together to achieve the same goal. Communication is key to doing well in competitions.



Team building robot

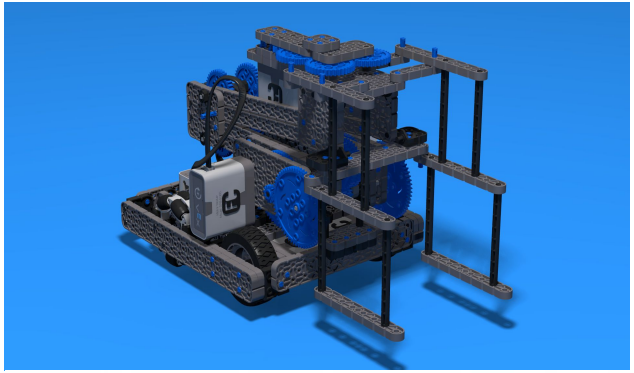


Coding strips

Building and testing a robot

How will Competitive Robotics Prepare us for This Field? (Cont.)

Health informatics is similar to Vex IQ because many hospitals use the same software and hardware technology for their tools, but the design and build are different. Each robotics team uses the same materials, but they all build different robots that can do different things. Some robots can pick up multiple items, some robots are fast, and some are very mobile. Every robot is unique.



Same materials, different design.

Competitive Robotics and Health Informatics

Testing the robot matters because when working in this career, you must test your robots and programs that you have designed to make sure that they do what they are supposed to consistently. Testing also helps you see what needs to be improved and if the robot or program is efficient in what it does.

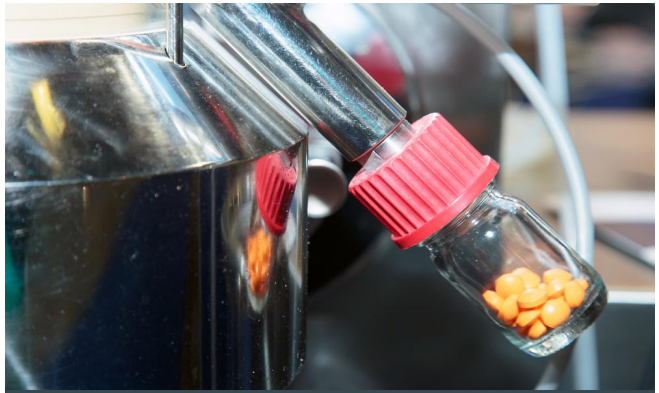
Driving the robot

Writing a robotics program

Robots will be used in this field by...

Filling prescriptions, scanning people to find any diseases, and giving medicine to patients are some ways robots can be used in healthcare. Filling prescriptions would be very quick and even more efficient if a robot does this instead of a human. If we find a vaccine for Covid, robots can deliver it to many hospitals in a short amount of time.

Panasonic Hospital Delivery Robot

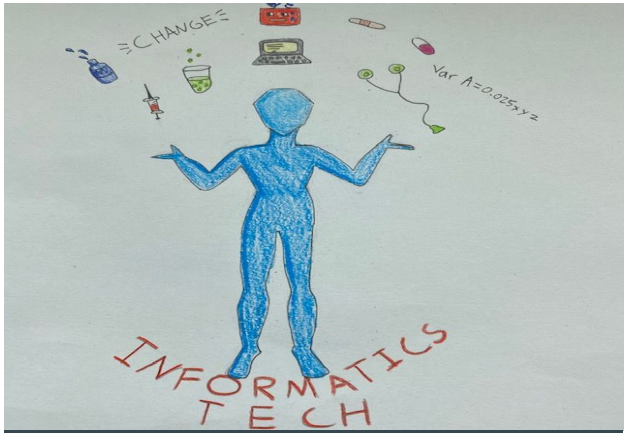


Robot filling prescription

Required skills and fields of study

There is not one specific field that you need to study. You can study many subjects in Healthcare Technology such as pharmacy, medicine, nursing, programming, and many more. The skill required for this field is an understanding of healthcare and technology. You have to have a passion to drive innovation and change and most importantly, to want to help people. This field will be growing very fast with many other careers.

Model by Laleh P



Model by Maria A

How will this field change in the next ten years?

We interviewed Roozbeh Pashmforoush, Pharm.D. who works in Health Informatics at Kaiser Permanente. Dr. Pashmforoush has seen many changes and improvements in this career as he has worked in this field for eight years. Health informatics started by turning paper files into digital files for safer and easier storage. Today, we have a lot of new technology including electronic medical records and robotic dispensing machines that are advancing with the years and will keep on growing in the future.

Electronic Medical Records

Team 5164C Marquez Robotics

Our presenters!

- Laleh Pashmforoush
- Maria Afzal

Our parent helpers!

- Julie Chew
- Roozbeh Pashmforoush

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