

## NEWSROOM

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## HONORS PROFILE: ERIC SPEENEY

ELECTRICAL ENGINEERING MAJOR INTERNS AT ADVANCED NAVAL RESEARCH FACILITY.

by [Brian McGuire](#) | January 7, 2021*Above: Eric Speeney**Read time: about 1 min*

Eric Speeney's rich [Honors Program](#) experience culminated in an internship at the U.S. Navy's Surface Warfare Center in Dahlgren, Virginia. The facility is a hub of research and testing for several systems installed aboard warships, including radar, weapons, satellite and radio communications.

Speeney and a partner were assigned to build a system that could transmit video from one handheld device to another using radio waves. They hit upon a solution using an old Raspberry Pi (a small computer) in a new way. "We figured out how to write computer programs in Python, and how to navigate through a command line to change HDMI video to composite video," Speeney, an [electrical engineering](#) major, said. "Our supervisors were impressed with our work!"

The duo then designed a battery of tests for their system in the labs at Dahlgren. "We went through a very extensive peer-review process to make sure we took necessary precautions," said Speeney. "The equipment in the lab is very expensive, and we had to be very careful or we could have damaged something." The testing revealed some issues with their system, and they went through several iterations of redesign and testing before they discovered a method that worked.

"The last part of our project was my favorite," Speeney said. "After spending a week collecting data in the lab, we got to process the data using Matlab and Excel." He and his partner made plots of their data and applied advanced processing and analysis techniques. "I had used all of the software in school before, but it was only basic functions

and graphs,” Speeney said. “With this project we got to see the full capabilities of the software, and I was amazed at how quickly it made the calculations and plots. If I tried to do all of it by hand, it would have taken days.”

Due to COVID-19, much of the personnel at Dahlgren was teleworking when Speeney began his internship, but by observing safety protocols, he was able to go onto the base for the majority of the work. “I was very lucky my internship was not canceled, and I actually got to go on base and work with a team of engineers,” he said. “Working for the military or the government is something I have been very interested in since I started college, so I am very glad I got to experience it.”

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