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TECH-SAVVY CNU TEAM RISES TO TOP AT DATATHON

STUDENTS USE TECHNOLOGY TO TAKE A SWAT AT MOSQUITO CONTROL

by [Kelli Caplan](#) | November 18, 2025

Above: Pictured from left to right, Caiden Pleis, Adeline Chen, Jerome Dizon, Ryan Schatzberg, and Brennan Miller.

Read time: about 3 min

A team of Captains created a major buzz at the [Hampton Roads Datathon](#) after developing an [innovative artificial intelligence \(AI\) dashboard](#) that identifies and tracks mosquitoes in real time to help reduce disease spread across Norfolk.

The team, representing Christopher Newport's [School of Engineering and Computing \(SEC\)](#), earned second place in the annual regional competition, which brings together university students, academic researchers, nonprofits, city departments, and industry partners to tackle community challenges through data science. This year's theme focused on mosquito surveillance and control in Norfolk, Va.

The weeklong datathon gave CNU students the opportunity to showcase their skills in data science, AI, and applied computing while contributing solutions with direct impact on public health and city services.



Smart Mosquito Surveillance: AI Classification and Community Awareness.



The CNU team created an interactive online dashboard to help locate and identify areas in Norfolk with mosquito issues.

“For the University, these events highlight CNU’s growing strengths in data science, AI, and experiential learning,” said Dr. Yan Lu, assistant professor of [Computer Science](#), who led the CNU team. “Our students demonstrated how undergraduates can meaningfully contribute to solving regional challenges while representing the School of Engineering and Computing on a public stage.”

The CNU team developed an AI prototype called Mosquito Watch, a machine learning-based system that analyzes images collected by the City of Norfolk to identify mosquito species and highlight areas with higher risk of mosquito-borne diseases. The dashboard offers a quicker, more automated method for processing surveillance images—an essential step in improving the city’s mosquito-control operations.

Creating Mosquito Watch was a challenge, but the team was up for the task, especially since its members were able to leverage their technology know-how to positively impact public health.

“Between web design, data processing, and deep learning, leading our diverse team to second place was very rewarding,” said team captain Caiden Pleis, ‘27 [Computer Engineering](#). “More importantly, applying and learning data science and deep learning techniques is very interesting and will serve me well in my career, not to mention it was fun to explore different parts of computer science outside of class.”

For team member Adeline Chen, ‘27 [Information Science](#), the competition not only boosted her knowledge but gave her a chance to see how classroom knowledge can be applied in the real world.

“The experience was incredibly rewarding and collaborative. This was our second time competing and with such an amazing and big group, it taught me so much about communication and how to combine everyone’s strengths toward one goal,” she said. “It was also exciting to apply the curriculum in class to something that had real world application and purpose. The project gave me a better appreciation for how data and computer science can make a positive impact on our community.”

Jerome Dizon, ‘27 [Cybersecurity](#), and Ryan Schatzberg, ‘27 Computer Science and Cybersecurity, helped develop the dashboard.

The competition, Dizon said, was one of “the most rewarding things I’ve done as an undergraduate.

“It has not only helped me develop my teamwork skills, but also practice my technical skills that I’ve learned in classes. This event in particular definitely gave me a clearer understanding of how to plan, think, and present effectively in a competition setting,” he said.

Schatzberg agreed.

“Being able to work as a group was a big piece of the learning experience as when we had questions someone almost always had an answer. Furthermore, everyone had a main focus and worked on other parts so everyone ended up knowing at least a little about everything and a lot about one topic,” he said.

To prepare for the competition, team members familiarized themselves with the deep learning models for classifying the images, the Norfolk’s mosquito surveillance datasets, including trap counts, species identification records, and weather data.

The students also toured Norfolk’s Mosquito Control Lab and spoke with its technicians to get a sense of “what improvements would make the largest difference in their quality of life,” said Brennan Miller ‘24, who is working toward his [Master of Science in Applied Physics and Computer Science](#) at CNU.

“This gave us an understanding of what their data collection process looked like and what details were most important to them, so with this knowledge, it was relatively simple to design something that we knew they would find valuable,” Miller said.

A large part of the project involved collecting mosquito photos from the city and then developing an auto-labeling pipeline that reduces the manual effort required to tag images - typically a point where public health data bottlenecks. The team’s model achieved a 90 percent accuracy rate, outperforming baseline models.

The team’s efforts and cutting-edge applications, combined with its members’ ability to communicate their model’s results, impressed the judges and earned a silver finish amongst strong competition from other universities and

city agencies.

“Competitions like the datathon are invaluable because they bridge the academic learning with real-world impact,” Dr. Lu said. “Students gain hands-on experience with civic datasets, teamwork under pressure, and presentation skills before professional judges.”
