

Seneca Applied Research Project Helps Fight Off Cyberattacks

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Fighting off cyberattacks could soon be as easy as plugging a small device into your home wireless network.

With more people working from home, residential computer networks have become gateways to larger networks and a bigger target for hackers. In response, a team of Seneca applied researchers has developed a solution that enables an enterprise-class security system to be easily deployed in a home or small office — protecting both the local and connected corporate networks.

The secret weapon? [ProtechSuite software](#) from the Mississauga-based technology company [J-SAS](#).

“J-SAS has created a new level of security using artificial intelligence to monitor the traffic behind the scenes and identify if information is leaking,” said Chris Tyler, Professor, [Faculty of Applied Science & Engineering Technology](#).

In collaboration with J-SAS, Mr. Tyler worked to bring ProtechSuite’s enterprise-level cybersecurity platform to home and small branch offices. He was supported by research assistants from Seneca’s [School of Software Design & Data Science](#) and [School of Information Technology Administration & Security](#).

The project was funded by the Natural Sciences and Engineering Research Council of Canada (NSERC).

Mr. Tyler, who is also the NSERC Industrial Research Chair for Colleges in Open Source Technology for Emerging Platforms, says there has been a new wave of attacks during the pandemic.

“These are very real threats from a robust and well-organized criminal industry,” he said. “The level of sophistication has been steadily increasing.”

When a home router is compromised, it allows the attackers to scan what is on it, infect attached devices and potentially use your network to access an employer’s network.

“Once they are in your router, they can see what devices you have,” Mr. Tyler said. “They can watch your entire network.”

To help J-SAS expand its line of products for individuals working from home or companies with small branch offices, Mr. Tyler created a compact device that can self-configure with larger networks and interact with users through a smartphone app.

“It’s essentially a security appliance that plugs into your network,” he said. “It self-configures and will identify the normal usage of your devices, doing what an IT professional would do automatically.”

Sase Janki, CEO of J-SAS, says their next step is to integrate the appliance into the ProtechSuite Home Office Platform.

“We were pleased with the outcome of our work with Seneca,” he said. “It opened the door to enable our product to integrate with popular home and small office networks.”

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