

## COVA CCI: UNDERGRADUATE RESEARCH

FALL 2020

Presented by **Ruhi Patel**



Ruhi Patel is a senior at Old Dominion University pursuing a Bachelor's degree with a major in cybersecurity and a minor in risk management and insurance. She is graduating in Spring 2021 and hopes to land a full-time position helping organizations manage their cyber risks. On campus, she is an active member of the Cybersecurity Student Association and AFCEA ODU Student Chapter. Ruhi participated in COVA CCI's Innovate Cyber program in Spring 2020. Her current passions within cybersecurity are cyber risk management, cyber insurance, cyber education and awareness, and the Internet of Things.



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# INTERNET OF THINGS (IOT): CYBERSECURITY RISKS IN HEALTHCARE

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# Presentation Breakdown

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## Important Points to Discuss

An Introduction + Statistics

The Problem

The Solution

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# An Introduction

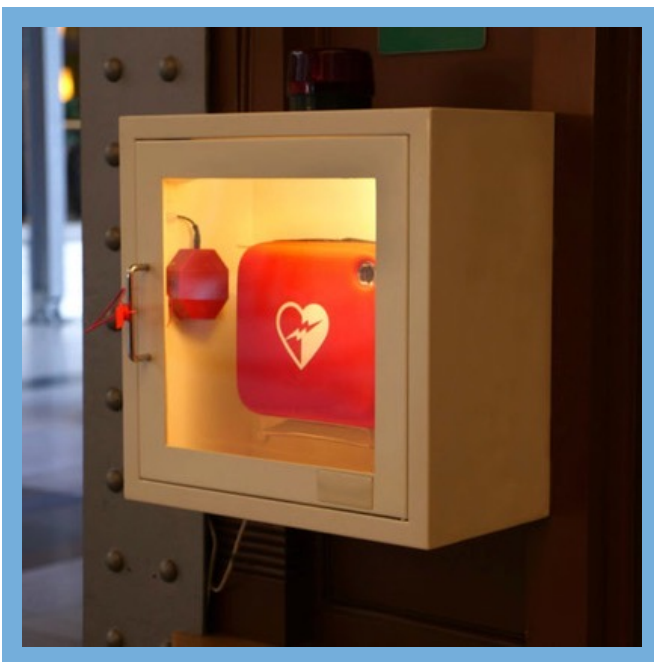
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## WHAT IS THE INTERNET OF THINGS (IOT)?

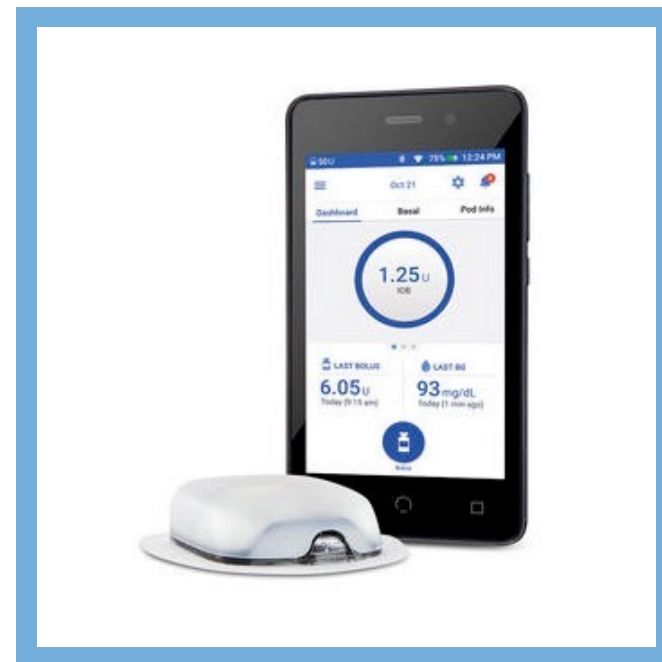
**Internet of Things:** a network of physical, technology-embedded objects that communicate, detect and interact with their external environment or internal state.

## HOW DOES IOT RELATE TO THE HEALTHCARE INDUSTRY?

**Internet of Medical Things (IoMT):** a connected infrastructure of medical technology, systems, and services that can collect, transmit, and analyze data.



**Defibrillator**



**Insulin Pump**



**Cardiac Pacemaker**

# Statistics

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**21.5 billion**

Estimated number of IoT devices by 2025

**60%**

Percent increase of cyber attacks at hospitals in March 2020

**\$158.1 billion**

Estimated amount of revenue generated by IoMT devices in 2022

**#1**

Healthcare is the most vulnerable industry for cyber attacks



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# The Problem

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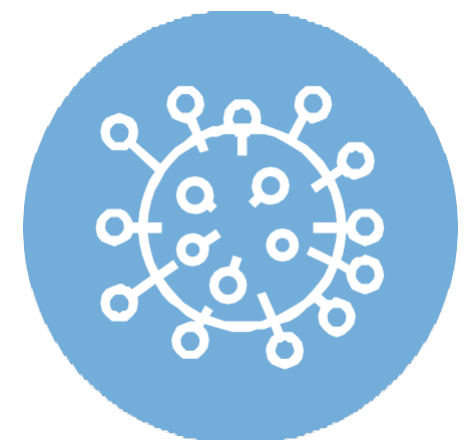
## 1: Outdated and unpatched systems

- Many technological systems and devices are still using legacy systems and remain outdated



## 2: Data privacy concerns

- Protected Health Information (PHI) is at risk of data theft and misuse



## 3: The effect of COVID-19

- New and sudden emphasis on telehealth services





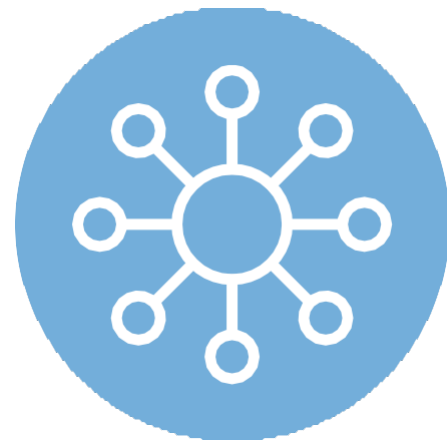
# The Solution

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## 1: Risk management techniques

- Use an enterprise risk management approach to identify assets and assess risks



## 2: Network segmentation

- Divide network traffic into subnets to separate internal and external users



## 3: Standards, laws, and regulations

- Pass unifying and clear legislation that requires entities to build security into their devices



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