



# ImmuneIT

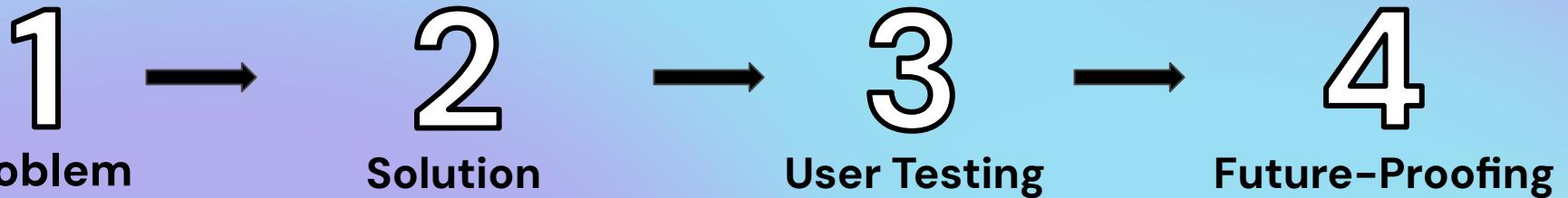
*Providing the first line of protection for the front-line.*



**Jacob Guglielmin, Marcus Thoen, Ryan Saloff, and Faraz Hosseiniyan-Tehrani**

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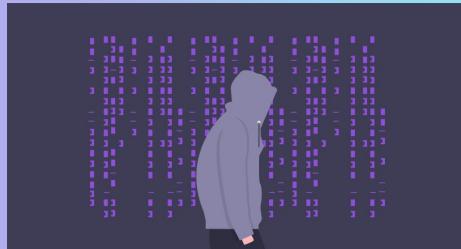


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# 1

# Problem

*The overwhelming impact of data breaches on the healthcare industry*



# Healthcare Cybercrime

- The healthcare industry has the most expensive data breaches at **\$14.89 million CAD per breach** (pictured)
- In Canada, **48%** of all security breaches were in the healthcare industry<sup>[1]</sup>

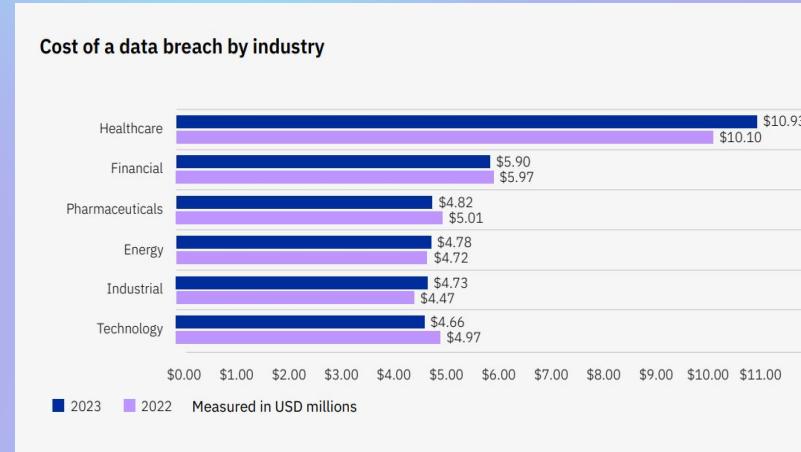


Image sourced from IBM (2023)

[1] - CBC, 2020



# Impact to the Company

- A 2019 attack compromised the health information of **15 million Canadians**, including 80% of British Columbians<sup>[1]</sup>
- Resulted in a \$9.8 million dollar settlement<sup>[2]</sup>



Image sourced from Boston Children's Hospital<sup>[3]</sup>

[1] - [CBC, 2020](#)

[2] - [Global News, 2023](#)

[3] - [Boston Children's Hospital, 2021](#)



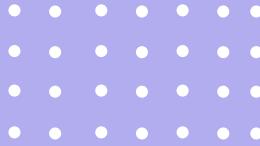


# Impact to the Patient

*"If individuals begin to lose trust in the health system, they may withhold or falsify personal health information, **avoid treatment**, or hesitate to consult their health providers altogether – **putting their own lives and health at risk** in order to protect their privacy."*

– Office of the Privacy Commissioner of Canada





# Safeguarding Healthcare

**74%**

of data breaches  
are caused by  
some form of  
**human error.**<sup>[1]</sup>

**78%**

of doctors receive  
no cybersecurity  
training.<sup>[2]</sup>

**89%**

of nurses receive  
no cybersecurity  
training.<sup>[2]</sup>

[1] - [2023 Verizon Data Breach Investigations Report](#)

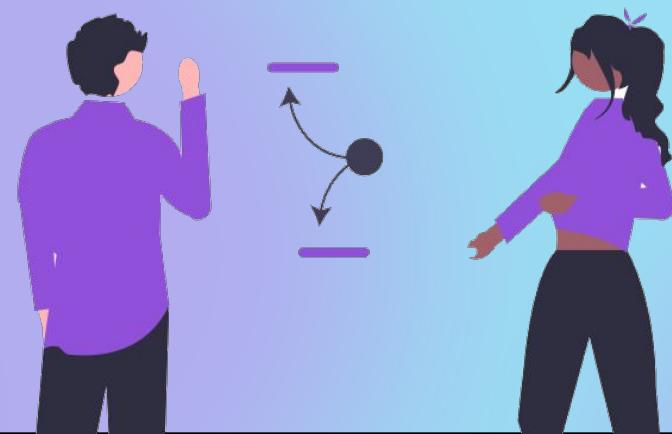
[2] - [Stobert et al. \(2020\)](#)



# 2

# Solution

*Empowerment through education.*



# What is ImmuneIT?

ImmuneIT is a web application designed to bridge the gap of cybersecurity education and training in healthcare.

Our product provides clinics with **targeted training** and **flexible pricing**.



# Design

We designed our MVP with ease of use as the biggest priority — whether you're a manager or an employee, the first thing you'll see is a dashboard with all the tools you have access to.

Equipped with a minimal and modern layout, ImmuneIT offers an interface perfectly tailored to the needs of every user.





# Employee Experience

Employees will be empowered with an interactive experience that puts education first. ImmuneIT features a comprehensive set of questions designed to train employees to put security and safety first in various situations with cybersecurity concerns.

Employees will be motivated to keep learning with a user-friendly dashboard containing all of their progress and stats.





# Manager Experience

As a manager, you'll be equipped with an expansive set of tools to support your employees' growth.

ImmuneIT offers managers the chance to create custom questions and training scenarios for their employees, while monitoring their progress along the way.



# Vulnerability Training with AI

Using Google's Cloud Functions to deliver our backend, we integrated Anthropic's *Claude 3* AI into our product, allowing managers to generate fake phishing and social engineering emails in order to test employees in a realistic setting.



# Demo

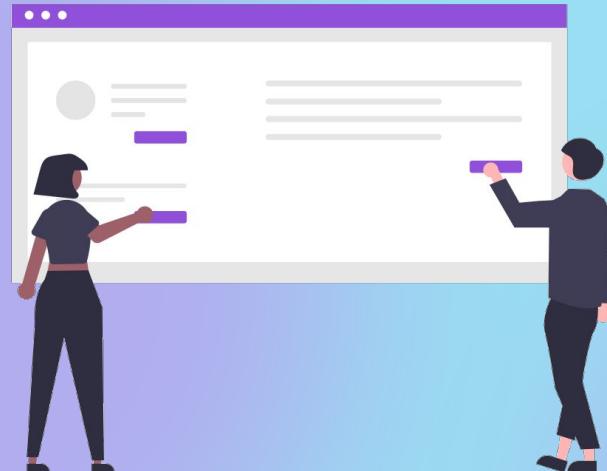
The screenshot shows a user interface for a platform called ImmuneIT. At the top left is a lock icon followed by the text "ImmuneIT". At the top right are links for "GitHub", "About", and "Sign In". The main area starts with a greeting "Hello, Gregor". Below it is a large teal-bordered box containing a bar chart titled "Skills". The chart has three bars: "Data Security" (the highest bar), "Phishing" (the shortest bar), and "Privacy" (the middle bar). Below the bars are the labels "Data Security", "Phishing", and "Privacy". To the right of the chart is a large text message: "You are **53%** done." Below this message is a light gray button with the text "Continue to quiz →".



# 3

# User Testing

*Train today, protect tomorrow.*



# Cybersecurity Training Study

- Arain et al. (2019) conducted a study assessing the effectiveness of privacy and IT security training<sup>[1]</sup>
- The trained group were **4.2x more likely** to correctly identify phishing emails



**Mubashir Aslam Arain**  
Alberta Health Services  
Senior Researcher

[1] - [Arain et al. \(2019\)](#)





# Implications for ImmuneIT

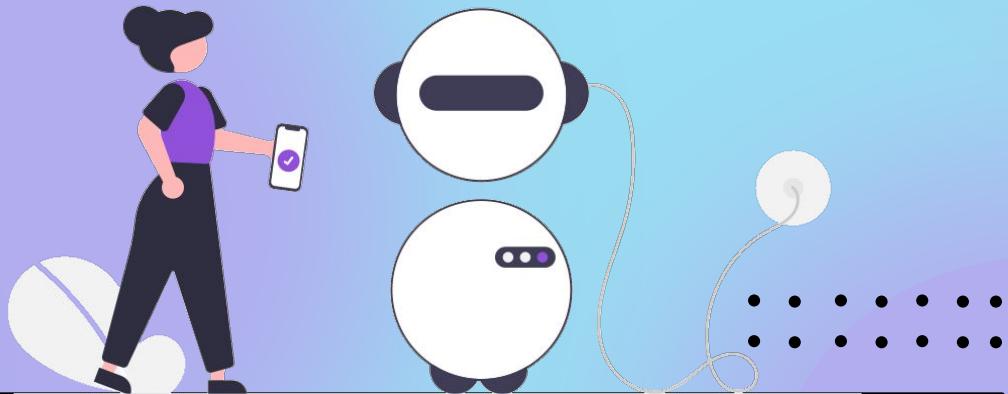
- Remember, **74%** of data breaches are caused by some form of human error
- We have utilized AI to combat **increasingly sophisticated attacks** against healthcare workers

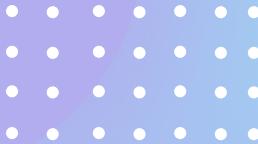


# 4

# Future Proofing

*Security that never sleeps.*





# Market for ImmunelT

*"The global healthcare cybersecurity market size was estimated at **USD 20.18 billion in 2023** and it is expected to surpass around **USD 81.63 billion by 2032** foreseen to show growth at a Compound annual growth rate (CAGR) of over **16.8%** from **2023 to 2032.**"<sup>[1]</sup>*

– Precedence Research (2023)

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<sup>[1]</sup> – Precedence Research (2023)



# Monetization Plan

- ImmunelT adopts a subscription-based revenue model
  - Pricing plans tailored to the size and needs of healthcare organizations
- Our application will be updated with the prevalent cybersecurity threats with the aim of long-term growth
  - A significant improvement from traditional training methods



# Scalability

- ImmunelT is built on a JavaScript-based frontend and supported by a Firebase database, designed to easily scale to a large number of simultaneous users
- AI integration is done via the Anthropic API — generation fees will be incorporated into the cost of the app



# Moving with Technology

- Iterative updates that adapt the training program to reflect the most prominent and impactful security threats
- We will further leverage the growing field of AI to create unique, user-specific content





# THANK YOU!

**Do you have any questions?**

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