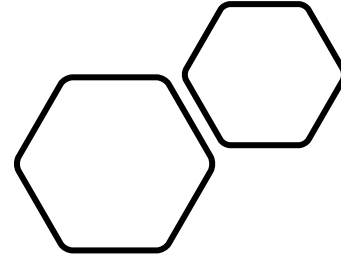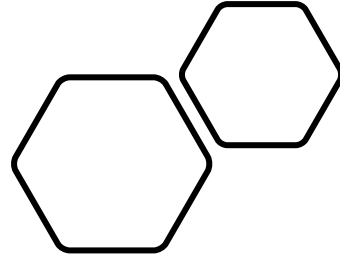# Cybersecurity

Matthew Kunzman

Who am I?
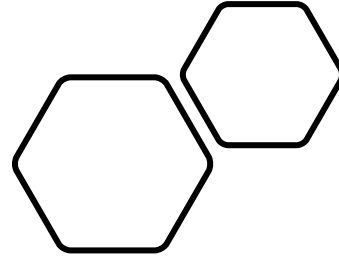
- More importantly, why listen?

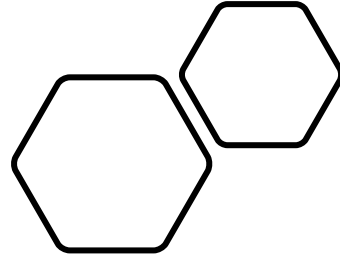# The Good, The Bad, and The Ugly of Security

- **The Ugly**
  - You Can Never Be "Secure"
  - They Are Really Out To Get You
- **The Bad**
  - Security Evolves Over Time
  - Continual Learning is Required
- **The Good**
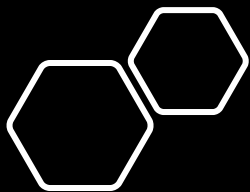 - You Can Make a Difference

The Ugly

You Can Never Really Be "Secure"

- Security is not an end state, **it's a process**

- It is simply:

    Measures taken to protect the safety of facilities, property, or personnel

They Really Are Out To Get You

Cybersecurity Threat Statistics

$4.24 million

Average cost of a data breach[1]

287

Average number of days to identify and contain a data breach[2]

350K

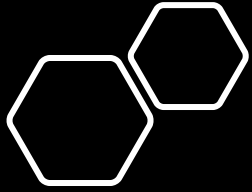Number of new malware programs found per day[3]

18K

Number of Solarwinds customers affected by supply chain breach[4]

$1.85 million

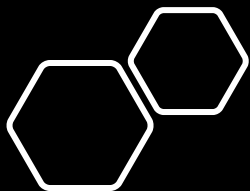Average cost of remediating ransomware attack[5]

74%

U.S. companies experiencing successful phishing attack in 2020[6]

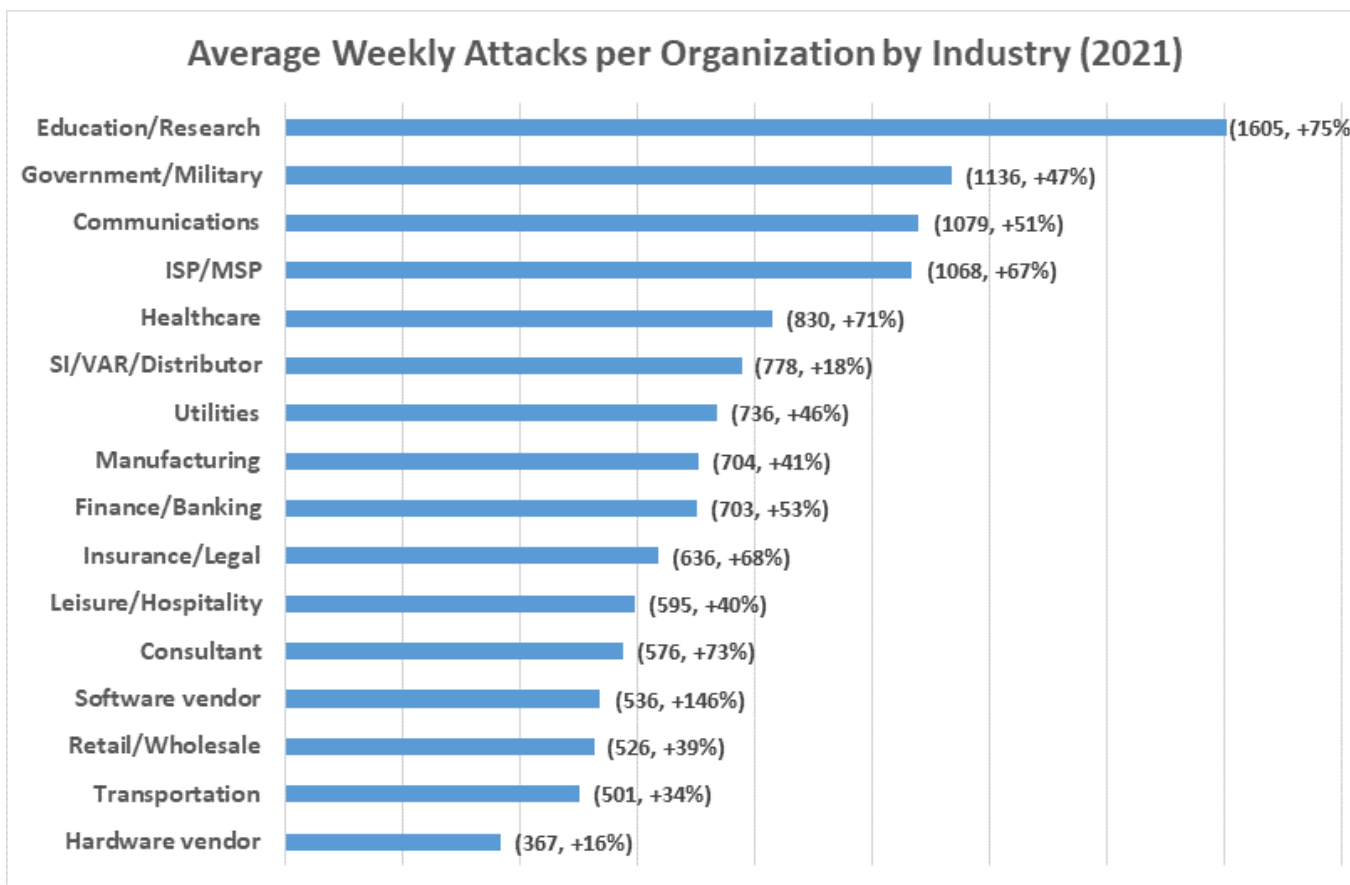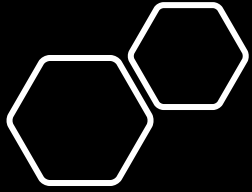# They Really Are Out To Get You

Global Cybercrime Damage by 2021

$16.4 Billion per day

$684.9 Million per hour

$11 Million per minute

$190,000 Per second

Source: Cybersecurity Ventures, 2020

FinancesOnline REVIEWS FOR BUSINESS

They Really Are Out To Get You

Average Weekly Attacks per Organization by Industry (2021)

Industry	Value
Education/Research	(1605, +75%)
Government/Military	(1136, +47%)
Communications	(1079, +51%)
ISP/MSP	(1068, +67%)
Healthcare	(830, +71%)
SI/VAR/Distributor	(778, +18%)
Utilities	(736, +46%)
Manufacturing	(704, +41%)
Finance/Banking	(703, +53%)
Insurance/Legal	(636, +68%)
Leisure/Hospitality	(595, +40%)
Consultant	(576, +73%)
Software vendor	(536, +146%)
Retail/Wholesale	(526, +39%)
Transportation	(501, +34%)
Hardware vendor	(367, +16%)

They Really Are Out To Get You

Global Weekly Cyber Attacks per Organization (2020 - 2021)

Warfare Evolves over Time

Age of Chariots

- Shock element
- Overcame the limitation of limited Fire support
- Speed and agility

Age of the Knights

- Mounted heavily armed warrior
- Maneuver warfare
- Combined advantage of speed and defensive position

Machine Gun Age

- Dominance of fire power
- Air warfare
- Trench warfare
- Death of cavalry
- Armored warfare
- Mechanized warfare

Modern Day Challenges

- Intelligence continues to be important
- Usage of infrastructure as a defensive strategy
- Cyber warfare
- Rise of Terrorism
- Rise of non state actors

400 BCE | **900 CE** | **Post 900** | **Circa late 900** | **1800s - 1945** | **1945-1991** | **Post 1990s**

Legionnaire Age

- Rise of the infantry
- Defensive positions
- Phalanx formations
- Chariots still in use to cater to the shock element
- Use of elephants in Indian Warfare

Musket Period

- Formalization of armies
- Introduction of firepower
- Development of camouflage
- Introduction of artillery to act as a decimator

Post Nuclear Age

- Technology intensive weapons
- Intelligence starts dominating warfare
- Threat of Nuclear, Biological and Chemical weapons
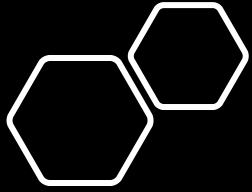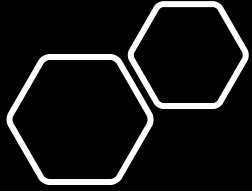- Diplomacy takes center stage

The Bad

Continual Learning is REQUIRED
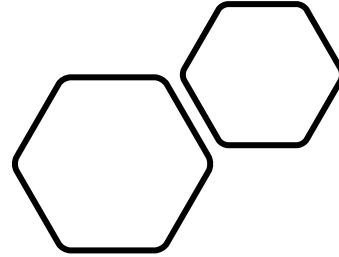
Attacks Change Daily

Can Mitigate With a Good Professional Network
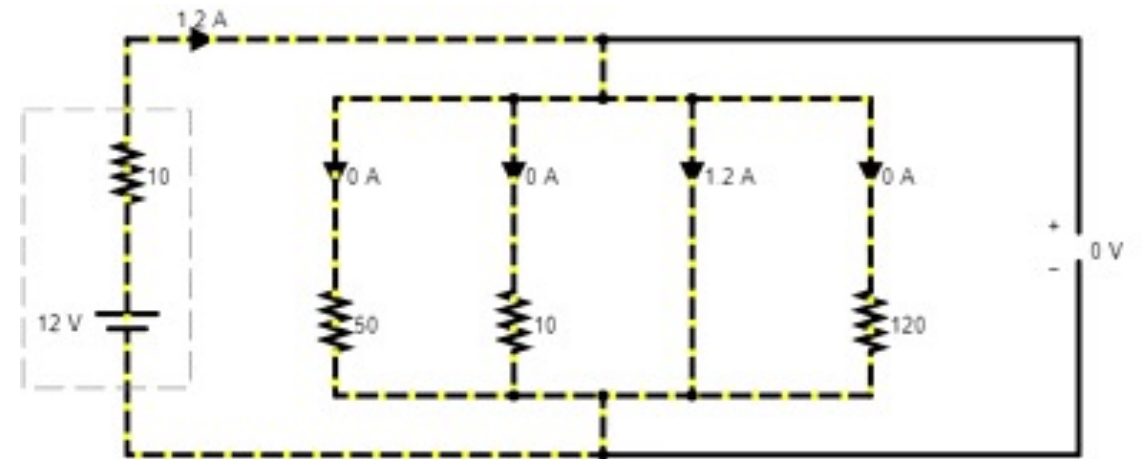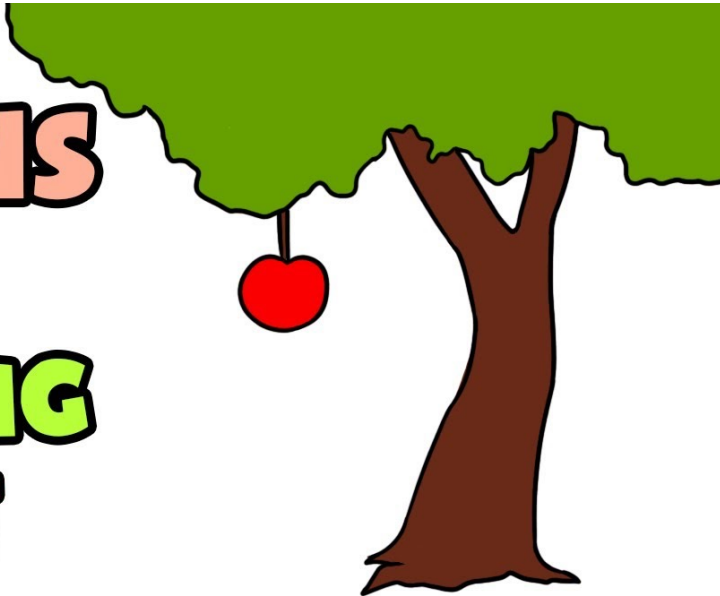
What Should You Learn

- Learn Fundamentals
  - Don't Be a Script Kiddie

  - Software Development
  - Linux
  - Networking
  - Psychology
  - Writing/Communication Skills
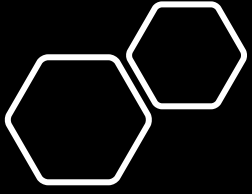 - Organization/Learning Skills

The Good

You Can Make a Difference

Questions