CISO MAG

beyond cybersecurity

Volume 4 | Issue 05 | May 2020

AI-POWERED CYBERSECURITY

CISO MAG
beyond cybersecurity

Volume 4 | Issue 5
May 2020

Editorial
International Editor
Amber Pedroncelli
amber.pedroncelli@eccouncil.org

Principal Editor
Brian Pereira
brian.p@eccouncil.org

Senior Feature Writer
Augustin Kurian
augustin.k@eccouncil.org

Feature Writer
Rudra Srinivas
rudra.s@eccouncil.org

Technical Writer
Mihir Bagwe
mihir.b@eccouncil.org

Feature Writer
Pooja Tikekar
pooja.v@eccouncil.org

Media and Design
Media Director
Saba Mohammad
saba.mohammad@eccouncil.org

UI/UX Designer
Rajashakher Intha
rajashakher.i@eccouncil.org

Sr. Graphics Designer
Sameer Surve
sameer.s@eccouncil.org

Management
Executive Director
Apoorba Kumar*
apoorba@eccouncil.org

Senior Director,
Compliance & Governance
Cherylann Vanderhide
cherylann@eccouncil.org

Deputy Business Head
Jyoti Punjabi
jyoti.punjabi@eccouncil.org

Head of Marketing
Deepali Mistry
deepali.m@eccouncil.org

Marketing Manager
Riddhi Chandra
riddhi.c@eccouncil.org

Digital Marketing Manager
Jiten Waghela
jiten.w@eccouncil.org

International Sponsorship Manager
Mir Ali Asgher Abedi
mir.ali@eccouncil.org

Publishing Sales Manager
Taruna Bose
taruna.b@eccouncil.org

Publishing Sales Manager
Vaishali Jain
vaishali.j@eccouncil.org

Technology
Director of Technology
Raj Kumar Vishwakarma
rajkumar@eccouncil.org

Image credits: Shutterstock
Illustrations, Cover & Layouts by: Rajashakher Intha

* Responsible for selection of news under PRB Act. Printed & Published by Apoorba Kumar, E-Commerce Consultants Pvt. Ltd., Editor: Brian Pereira.
The publishers regret that they cannot accept liability for errors & omissions contained in this publication, howsoever caused. The opinion & views contained in this publication are not necessarily those of the publisher. Readers are advised to seek specialist advice before acting on the information contained in the publication which is provided for general use & may not be appropriate for the readers' particular circumstances. The ownership of trade marks is acknowledged. No part of this publication or any part of the contents thereof may be reproduced, stored in a retrieval system, or transmitted in any form without the permission of the publishers in writing.

EDITOR'S NOTE

WILL AI BE A GAMECHANGER IN CYBERSECURITY?

Fighting cybercriminals has been a cat and mouse game for decades. Today, an enterprise has to detect and block thousands, or perhaps millions, of such attacks; it is no longer possible for a human or even an army of security professionals to do that.

But AI and ML are joining the fight and perhaps giving the good guys an advantage that could finally put the defense far ahead of the attackers.

Our cover story titled "AI-Powered Cybersecurity - From Automated Threat Detection to Adaptive Defense," written by **Dr. Leslie F. Sikos** at Edith Cowan University, Australia, talks about the various cutting-edge ways artificial intelligence and machine learning are applied to cybersecurity domains. Dr. Sikos explains how machine learning can help organizations with everything from threat prediction, recognizing network attack patterns, identifying malicious web pages, and preventing adversarial machine learning to performing dynamic risk analysis, discovering signs of malicious network traffic, detecting anomalies, protecting their assets from cyberattacks, and minimizing or mitigating malware spread.

In our Knowledge Hub section, don't miss **Dr. Erdal Ozkaya**'s article titled "Security Evolution — From Legacy to Advanced, to ML and AI". Dr. Ozkaya is an award-winning, certified professional and CISO at a global bank. He takes us through the evolution of security, from the days of signature-based solutions and explains how these solutions evolved to keep up with the growth and sophistication of malware attacks. What will happen once AI overtakes human intelligence and security solutions stop accepting human input? What are the limitations of AI as regards to cybersecurity? And how will hackers use AI? These are some questions addressed in Dr. Ozkaya's article.

Our Insight section features an article by **Kashyap Kompella**, who is CEO of RPA2AI Research. Kompella is the co-author of the bestseller, "Practical Artificial Intelligence: An Enterprise Playbook."

We hope you enjoy reading the articles in this issue.

Please write to us at editorial@cisomag.com.

Jay Bavisi
Editor-in-Chief

INDEX

12 BUZZ

5G Security: Possible Risks and Challenges

24 UNDER THE SPOTLIGHT

Every Bit of Compromised PII can be Used for Social Engineering Attacks to Target Individuals or Institutions

36 INSIGHT

Cybersecurity and Artificial Intelligence: It's Complicated

48 KNOWLEDGE HUB

Security Evolution from Legacy to Advanced, to ML and AI

64 TECH TALK

Organizations Need to Address Attack Surfaces and Vectors Associated with IT/OT Convergence

74 COVER STORY

AI-Powered Cybersecurity From Automated Threat Detection to Adaptive Defense

88 KICKSTARTERS

Panaseer: Delivering Enterprise Security Through continuous Monitoring

100 REWIND<<

Top Newsmakers and the Hottest Cybersecurity News of the Month.

CISO MAG
beyond cybersecurity

EVENTS

An EC-Council initiative

INTRODUCING YOU
TO THE NEXT LEVEL

VIRTUAL SERIES

Formats you can explore with EC-Council's CISO MAG

- Fireside Chats
- Virtual Roundtables
- Podcasts
- Interviews
- Innovators Space

Benefits of **Virtual Series**

Moving events online can reduce costs and carbon footprints and make attendance accessible to a wider audience.

Due to the ease of platform use and virtual location, virtual events require minimal setup time. The planning time compared to in-person events is reduced tremendously.

Viewers receive the same amount of knowledge while still sitting at home/ office

Increased Awareness and Thought-Leadership Perception for brands

Most countries are locked down currently and this is the best way to capture their head space

No geographic boundaries

For Details write to
marketing@cisomag.com

events.cisomag.com

EC-Council

CODERED
Empower Cybersecurity Professionals

A World-Class Cybersecurity Learning Platform

From the makers of **C|EH**

ISSUE COMING OUT IN JUNE 2020

CISO MAG
beyond cybersecurity

CLOUD SECURITY
POWER LIST
SHOWCASING THE POWERHOUSES IN CYBERSECURITY

Cloud Security
Companies To Watch Out in 2020

10,000 Global CISOs Will See
Your Brand In The **Cloud Security Power List**

For Advertising Opportunities write to

marketing@cisomag.com

5G SECURITY

POSSIBLE RISKS AND CHALLENGES

David Balaban, Computer Security Researcher,
Privacy-PC.com

5G is taking the world by storm. This game-changing technology takes mobile connectivity to a whole new level by introducing jaw-dropping speeds and low latency. Furthermore, its network capacity can reach a million devices per square kilometer, which is ten times the maximum number supported by 4G.

Whereas the dramatic change in the millimeter-wave frequency spectrum used by 5G compared to its predecessor doesn't really mean much to the average person, there are tangible benefits that make a difference and can be noticed with the naked eye. The speeds can reach 1Gbit/s at the dawn of 5G deployment and will theoretically grow to 10Gbit/s as the technology evolves. That's up to 100 times faster than 4G. Reduced latency is another breakthrough, allowing data to arrive at its destination about five times quicker.

A simple example of how this improves the user experience is that there is absolutely no buffering time when watching a 4K quality video on a mobile device. Uploading and downloading gigabytes of data is a matter of mere seconds in 5G networks, which transforms the way users interact with numerous cloud-based services. Also, wirelessly connected entities that constitute the Internet of Things (IoT), including self-driving cars and smart home appliances, will be able to operate reliably and seamlessly. An extra factor on the plus side of 5G is that people can enjoy fully-fledged connectivity in places where cable modems and Wi-Fi are unavailable.

Having started with field testing and somewhat scattered regional rollouts in 2019, the deployment of 5G is currently accelerating around the globe. In the United States, the European Union, and East Asia, the process of launching next-generation commercial networks is in full swing, ceremonially taking place ahead of schedule.

To keep up with this telco evolution, all major smartphone manufacturers have already released devices that support 5G. Furthermore, market analysts predict that these gadgets will account for 15% of all global smartphone shipments in 2020. Aside from smartphones, a plethora of different IoT solutions will be heavily reliant on high-speed connectivity soon.

SUBSCRIBE NOW

TO READ THE FULL ISSUE