

**Script - Bug
Bytes**

**Resilience
Series: Bug
Bytes**

**By Clint Watts
and Farid Haque**

Illustration of a woman in her mid-twenties with syringes, 5G towers, and COVID-19 spike proteins in the background.

Disclaimer

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Page 1

(EXT. University of Ann Arbor)

(A white van with a 5G logo stops at the university entrance.)

(A man in rugged blue-collar attire and his daughter are seen in the front seats of the van.)

(INT. of the van)

Dad:

Can't believe you're already in Grad school!

First graduating cum laude in Cybersecurity, and then you got that full ride to grad school for journalism! And a Teaching Assistant here too! You make me so proud, kid!

Ava:

Thanks, Dad!

Dad:

C'mon sweetheart, is that all you got for your old man?! You earned this! You're the first of us to get to college, let alone grad school.

Ava:

(visible regret)

Now stop already! You know what Mom would have said.

(Ava looks eager to get to her class, points outwards.)

(The radio breaks out an announcement relating to Covid-19.)

"...special bulletin as Covid-19 numbers continue to rise across the nation."

Ava:

Aaaand this is me...gotta go, Dad!

Page 2

(EXT. University of Ann Arbor)

(A young female student wearing a mask beckons another student to also put one on; the man sheepishly looks down for it) .

Female Student: Could you please put on your mask! There are hundreds of people here! And... I am not ready for you to become a statistic!

Ava: So much has changed so quickly! First mom and now this... well, at least the sun is out!

(Ava walks across campus towards her classes at the Graduate school of Journalism as her father stands outside the van, arms folded and proud of his daughter..

Page 3

Exterior: University of Ann Arbor, on the road in front of a campus building. Ava's phone is buzzing.

BUZZZ... BUZZZ... BUZZZ

She picks up to see a bunch of messages from her father, Frank Williams.

Frank Message 1: Going to get out your hair...

Ava Message 1: Thank you!

Ava Message 2: Emoji sticking tongue out

Frank Message 2: You know your mother would have been sobbing if she was with us...

Ava: Seriously!

(Frank Williams is calling Ava Williams.)

Ava: What is it, Dad?! You do realize that I am a woman in her mid twenties...

Page 4

Frank (sitting in the car):

Nothing, other than I noticed you didn't have your mask on... Just reminding you to be safe!

Ava (on the road in front of a campus building): OK! You got me! Got distracted and wasn't thinking. Thanks for the reminder. See you later this evening!

Frank: You betcha!

Ava [thoughts]: Now... where is my mask?!

(She rummages around her bag looking for the mask and finally finds it.)

(She starts to put the mask on her ear...)

(She adjusts the entire mask.)

Page 5

As she walks across campus, Ava checks her voicemail.

Phone: "YOU HAVE NO NEW MESSAGES."

(Ava arrives at the school of journalism and stands in awe of the structure and the people that had been there--a column for nearly every Pulitzer) .

Her dad is driving to work. His phone starts ringing .

Frank:
Morning, Jim!

Boss:
Morning, bud. Say, there's a 5G tower not working in east Ann Arbor. Could you get over there and take a look? There seems to be something wrong... Don't think it's communicating back to HQ.

Frank:
Sure thing! ...Sure thing! Just a few miles out...lemme take a look...

Boss:
Oh no!
Frank, it sounds like there's a fire! I'm calling 911. Get over there ASAP!"

Frank:
I'm on it, chief!

Frank to himself:

I hope this has nothing to do with all that crazy conspiracy stuff around 5G and its nonsensical link to the virus. How can people believe that stuff?!

Page 6

Frank turns around and drives towards the location...

Navigation: YOU HAVE 5 MINUTES TO DESTINATION... TURN LEFT IN...

Navigation: YOU HAVE 3 MINUTES TO DESTINATION...

Navigation: ARRIVING AT DESTINATION...

Frank arrives and sees the tower ablaze. An incredulous but worried look on his face.

Frank:
What the...

Page 7

(EAST MICHIGAN; ANN ARBOR EAST MAST)

(Two assailants in balaclavas approach a 5G Tower/Mast.)

Assailant 1:
It's quiet.No one's in sight. Over!

Unknown Conspirator:
Light it up.

(Assailant 1 motions to Assailant 2. A Molotov cocktail, fire bomb, is thrown.)

Page 8

Assailant 1: Burrrrrn! Baby burrrn! And take that nasty disease with you!

Assailant 2: HEY! QUIT THAT RACKET! Pack up and let's clear out. NOW!

(Assailants hear the van pulling up.)

(Close up of the Assailant as he sees that someone has witnessed the arson attack.)

Page 9

(INT. Tower Site)

Frank:

Hey! Stop!

(He sees two men in balaclavas making a run for it towards a truck.)

Frank:

Son of a-- (Use double-dash for an interruption in comics.)

(He darts towards them.)

Frank:

(The two men turn around as they realize Frank is alone.)

(They pick up two weapons from the back of their truck.)

(Frank is visibly scared, but tries to show bravery, putting his fists up.)

("THUD!" an assailant kicks Frank.)

Frank covers his head with his arms:

No. Please!

GROAN

(We look at the scene from a 1st person perspective: Frank's shutting eyelid.)

(Show less vision as his eyes close...)

(He sees the nameplate of the car: it reads something...Frank can't make sense of it as his eyes shut.)

Page 10

Assailant 1:

Let go of me. Let me at him!

Assailant 2:

Grab a hold of yourself. I know you are angry about how these towers are harming us, but we can't hurt other people.

Are we clear?

Assailant 1:

Yes.

Page 11 and 12

Frank sees the licence plate and starts to repeat letters as he loses consciousness.

“E33...”

One assailant stares at Frank menacingly as the other walks away.

Page 13

As blood flows from wounds, obscuring his vision, Frank's eyes begin to close.

Exterior: Assailants' truck on the road.

Interior: Assailants' truck.

Assailants are driving back to an unidentified location.

Assailant 2:

All clear. We had to improvise a bit. We had some company. But he won't be any trouble.

Page 14

Sirens and lights are heard and seen.

Firefighter 1: Let's get this beast under control!

In the background, paramedics lift Frank into an ambulance.

Paramedic: Gentle...

(INT. Hospital Room)

Frank slowly opens his eyes, and we see things from his perspective.

Doctor: Mr. Williams, can you hear me? Sir?

Half an hour later, the police enter...

Policewoman:

I'm really sorry to have to do this now...but do you remember anything else about the attackers? The getaway vehicles...

Frank:

I remember the plates. E33....

Page 15

Interior: Hospital room; police officer is making notes.

Frank: Hey, sweetie.

Ava: Dad? Are you OK?

Who could have done this to you?!

Frank:

I don't know... I... I was jumped by a couple of punks! They had masks on...and not the good kind!

Police officer:

Ma'am, he needs time to rest. Please wait outside.

Ava:

(paranoid sounding)

Sure...

Ava and the police officer step outside. In the hallway, Ava is overcome with emotion and sits on the floor, covering her face with her hands.

Page 16

She bursts out in tears.

Police Officer:

Miss Williams, stay strong. We'll do our best to find whoever is responsible.

(EXT. Hospital hallway)

(She bursts out in tears.)

Ava:

Oh god... Dad...

For a moment Ava is grief-stricken, but then her facial expression changes to one of determination. She looks into her dad's hospital room through the window.

Ava (thinking):

Dad, I promise I'll find out who did this to you.

(EXT. Hospital Entrance)

Ava:

(in mind)

You're all I have left.

Page 17

September 2020 - The next day at the university...

(Cut to Ava walking to the library).

(INT. U of A Library)

(Ava settles down and begins to do some research on 5G mast attacks using her laptop.)

(Ava Stumbles on to a website with a local petition right in Michigan against 5G on MakeYourOpinionCount.org.)

(She types in "5G Attack Michig.." on the search engine, show one of the result - MakeYourOpinionCount.org with a petition suggesting to 'Stop 5G Cell Tower Deployment in Michigan')

(She's shocked to see 52126 signatures).

Ava (thinking):

That's weird. There seems to be a link between 5G and Covid in these comments.

Why try to link 5G technology to the vaccine? We don't have a vaccine yet...There can't be any research to support this claim. It takes a long time to do those studies.

(She finds an update from supporters of the petition on the page.)

Petition Supporter 1:

5G is going to destroy our immunity. The radiowaves from 5G will make it impossible to resist the virus! This is all an experiment on humanity.

Petition Supporter 2:

THIS IS A DANGER TO HUMANITY. IT HAS TO STOP!

As she reads on, Ava detects some more suspicious activity.

Ava (thinking):

Hmm...looks a bit strange?! So many random comments. Some don't look like they have been made by a real person!

I wonder if these are real...

Page 18

(Ava continues her research...)

(She gets to work wading through hours of content before she observes something interesting.)

Ava: None of the people commenting on vaccine's links to 5G were talking to one another! There is just not enough on their profiles to suggest that they are real people.

Ava:

This seems like the result of a malicious cyber campaign! But orchestrated by whom?
I need to look into this some more... hmmm...

(She continues to zero in on the most suspicious ones? Slowly picking apart the synthetic records to uncover what was going on...)

(Show her zooming into some of the comments.)

Ava:

Laura Brant, Abigail Palmer, Dhanush Patel.

(The panels show these people's social media pages.)

(She's alternating between all her computer screens with lots of social media open to identify who is real or not.)

Page 19 and 20

Double page spread with Ava at the library

(Day turns to night.)

Ava:

(in mind)

That's odd, none of them exist in places you would expect outside of the platforms. Digital ghosts?

Page 21

(Many hours later....Ava feels that it's getting late at the library and decides to de-camp to her own Teaching Assistant office on the other side of campus...she shuts down her laptop)....
(She cannot take her mind off the profiles and continues to investigate over her mobile as she walks...)

(INT. Investigative Journalism department at U of A)
(Opens door to office with key.)

(INT. Ava Williams TA Office at the Investigative Journalism department)

(She is looking at some screens with some profiles.)

Ava (thinking):

There are some traces online, but they never talk to one another?

They never seem to post a comment and have a discussion with one another on very obviously shared ideals... Something funny's going on...

Page 22

A few days later, Frank is discharged from the hospital and is back home.

Ava calls up her father, to see how he is doing.

Ava:

Hey, Dad. I'm running a bit short on time, but I wanted to check in on you.

Frank:

I'm fine kiddo.

Have I mentioned how proud I am of you for all the work you have been doing on disproving the link between 5G and Covid?

Ava: Thanks, Dad! I can't believe how many people believe that there is a link and have been attacking 5G towers. People don't realize that this is disinformation.

Frank: That's right! People need to understand that 5G is simply the fifth generation of wireless technology. Right now, most of us are using 3G or 4G networks for our mobile phones and 5G is the new technology that will make things faster.

Ava: I get that Dad, because of you. But so many distrust new technology. All it takes is a few words on social media shared by a celebrity or someone they know to become an issue. Because of the disinformation, people believe that 5G towers are going to make them sick. And that 5G is somehow linked to the Coronavirus. But I don't see how that could be true.

Frank: It's very easy to become susceptible to fake news today!

Ava: Disinformation, Dad. Disinformation. Information that is not true and is being spread. It's easy to mix up the terminology.

Page 23:

Frank: Haha you got me! People believe what they read on social media. If I didn't know better, I would probably believe something if my friends posted it on their feeds. No one takes the time to check this stuff anyway.

Frank: People also are not fully aware of what 5G is all about.

Ava:

That is part of the problem.

5G will help us do more with the devices and systems that we have. For example, I would probably be able to download a game or a movie about 5 times quicker with 5G.

Page 24:

Frank: That's right! All of this is linked to the Core Network, which is the backbone of our communications infrastructure that routes data and connects the different parts of the access network. The Core Network is connected to a system called the Radio Access Network or RAN, which consists of a few different parts:

1. Software that helps manage the network
2. Large towers called macro towers that are connected through an optical cable
3. Small cells that receive and transmit data

This infrastructure then connects to our phones and laptops, which means we can do things like download movies faster, like you said. 5G only carries data and physical things like viruses or bacteria cannot travel in radio waves or telephone networks. IT viruses are completely different from biological viruses, which cannot travel this way.

Ava: If this spreads more, it could get out of hand. Claiming that 5G towers are linked to the virus is dangerous - it's wrong, and those claims might inspire more attacks like the one on you, Dad!

Page 25

Back at the Teaching Assistant office...

Ava:

There is too much data... I need to get smart and write some code to scrape and analyze this. I knew those computer science classes in undergrad would come in handy one day.

It pays to be a journalist with a cyber degree.

(Panels of her developing scraper code)

(A close-up panel of her finger pressing enter.)

Ava:

(Frowning)

So, the data shows that a number of backers are signing the petition simultaneously at certain time intervals of 3:30 pm, 5:30 pm, and 8:30 pm Eastern Time? That's a tell...

(She scrolls through the comments).

(The posts are poorly worded with no one contesting them.)

Ava:

The only thing that makes sense is that this... this is a bot farm.

Page 26

(Show her connecting strings to make connections between the different places these names have shared comments on the same day.)

(Remembering Colleen, her friend from grad school, Ava calls her for the contact details of a lawyer they had previously met, who may be able to help.)

Ava:

Colleen, can you ping me the name of that lawyer lady we met from DC? The one who knows a lot about cyber laws and disinformation. Thanks!

(Ava looks up the lawyer in DC.)

Wow, she seems like the right person. She practices cyber law. And... here's her number... maybe she can help!

(Ava calls Ms. Sondra Jefferies, the specialist legal expert.)

Sondra:

Sondra here...

Ava:

Hi. This is Ava Williams from the University of Ann Arbor's journalism department. We previously met...

Sondra:

Not interested!

Ava:

No! Wait--

Page 27

Sondra adjusts her mask as she enters the public section of the airport.

Sondra:

What is it? Make it quick... I need to be on a flight in 2 mins...

Ava:

Can I call you after you land? It's urgent. I think I have discovered a disinformation campaign online that could result in a lot of people getting hurt.

Sondra:

Fine... Let me call you back as soon as I land in DC.

(Flight Announcement)

Coast 2 Coast Airlines flight number W914 now boarding at gate 12.

(Sondra makes her way on to the flight with just a laptop bag and makes her way down the plane aisle.)

She takes one last look at the phone to see where the number came from... she looks at the state code and thinks:

Michigan?

Page 28

Pilots exchanging notes:

Landing gear is engaged. Screech!

Pilot Announcement:

Ladies and Gentlemen, welcome to Washington Dulles International Airport. The local time is 6:55 P.M.

Sondra's flight lands in DC.

Page 29

Pilot:

...Thank you for flying on Coast 2 Coast Airlines..

Sondra gets a call on her phone from Ava.

Sondra:

You don't waste much time do you?

Ava:

Sorry... I was tracking the flight online...

Sondra (picks up her luggage at belt):

Let me get my earphones on and we can speak privately.

(The afternoon transitions into late evening as Sondra makes her way to the taxi.)

Ava:

Thank you so much. I wouldn't have called if this wasn't urgent!

My father is already in the hospital because of this whole mess!

I've been meaning to ask you about cyber law for quite a while now. Feels like there must be something that can be done to fight all this misinformation flying around.

Sondra:

Of course, I'm glad to help. If I may ask, why are you doing this? Is it a story you are chasing down?

Page 30

On the taxi ride back from the airport to downtown DC.

Ava:

At first it was personal because my father got hurt, but I realized that this is so much larger than the two of us.

Ava:

My father works at a company that maintains 5G infrastructure in Michigan. He was attacked by a group of masked men, who he caught trying to destroy a 5G Tower.

I did some internet searching and found a petition on MakeYourOpinionCount.org that wanted 5G Tower construction to be stopped in Michigan.

The person who started it was trying to focus on the radio waves and their impact on our health, but the petition seems to have been hijacked and linked to the COVID-19 virus.

It had a little over 50,000 signatures and it seems that around 15 percent come from what looks like a bot farm. Someone is pulling the strings on this situation.

Sondra:

Shocking what some of these outfits are able to do with just a few lines of code! I am sure that you now understand the difference between misinformation and disinformation.

This appears to be a classic disinformation campaign, where false information is being used to mislead people and manipulate the media.

Misinformation is more when someone makes a mistake such as providing factually incorrect information, but it's not malicious...

Ava:

This is really why I need your help to understand if there is any way to shut down the petition and – to be blunt – bring the Bot farm owners to justice!

Sondra:

It's not that simple, especially since most farms are overseas. While we have been talking, I texted someone who is interested in helping you. His group likes to keep a low profile, but you should be hearing from them any moment now.

Ava:

Yes, of course. Thanks for listening. I really appreciate you taking the time to hear me out.

And thanks for mentioning me to your contacts. I look forward to hearing from you!

Sondra:

Happy to listen and, as I said, I will send something your way that might be able to help out a little more than I can. Stay safe and goodnight.

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Half an hour after the call, Ava receives an email.

Ava:

The group Sondra got in touch with moves quickly! Looks like this email is from them.

(She reads the message.)

Email received:

Subject: 5G Michigan

Now that you have opened this message, it will be deleted automatically in 10 minutes.

1. **Create an account on BLOCKWRLD**
2. **Search VidView for the Secret Library**
3. **Under Russian Literature find book 222**
4. **Type a phrase from Dostoevsky's book 'The Idiot'. "I am a fool with a heart but no brains"**
5. **Wait for response**

**Love,
Symous**

The message has a self deletion timer for 10 minutes...

(Then Ava looks at the time and notices again that the message will delete. So she takes a photo of the message with her cell phone and smiles feeling smart about it!)

(Ava opens a VidView page on 'How to access the secret library' on BLOCKWRLD.)

(She creates a 3D avatar of herself on BLOCKWRLD and enters the unrestricted server.)

Ava:

Here goes nothing.

Page 32

Ava's 3D Avatar climbs the stairs of the secret library.

She tours around this vast facility, looking at other 3D counterparts as well.

Finding book 222, Ava enters in the quote from Dostoevsky...

"I am a fool with a heart but no brains."

Page 33

(She waits around the book)

An hour later... no response.

(Her eyes never leave the screen but her eyelids grow heavy and give way to sleep)

(Some time later, Ava hears a "BEEP" noise from her computer, as a 3D avatar responds.)

She stirs and knocks a book off the table.....

"THUD!"

(Ava gasps in shock looking at the 2:22:22 time.)

GASP

3D Avatar:

And beauty will save the world. Nice to meet you Ava.

(She types "beauty will save the world" on Google search and finds out it's a Dostoevsky phrase.)

(She quickly replies) "and you are a fool with brains but no heart; and we're both unhappy, and we both suffer."

3D Avatar:

Let's talk on this link. <http://chairman.12345/9605/sonen.php>. Don't worry. It's secure and can't be traced back to either of us.

(Ava clicks it.)

Page 34

(The person she is talking to is someone wearing a augmented reality face mask of a Wolf.)

Chairman:
Ava Williams....Welcome!

This is the Chairman.

Ava:
Hello...?

Ava:
Hi...I'm not looking for any trouble!

Chairman:
Relax. We're the good guys! I've heard your father is recovering well at St. Martha's?

Ava:
Wait...how do you know my father?

Chairman:
We have been following the news Ava. I know what happened with your father. Not much we don't know about!
How can we help you?

Ava:
My father works for...

Chairman:
The local 5G company, and he was jumped by some assailants who attacked a 5G tower! Let's skip to what you need, Ava. We don't have much time!

Ava:
Seems like you really are in the know. Can you please tell me then...why on earth was the 5G tower attacked?! I have found evidence of a linked disinformation campaign online. You must know about it already?

Chairman:
Go on...

Ava:
Someone hijacked the petition and linked it to the Coronavirus vaccine. It has accumulated 52,000 signatures, 85% of which are bots. I guess the latter gave it the traction it needed.

Chairman:
Send me the data...we haven't been too focused on Michigan as of yet. This thing is bigger than you know. Other parts of the U.S. and other countries – including U.S. allies - are experiencing similar problems.

(Ava sends the data.)

5 minutes later

Chairman:

I'm really impressed by the analysis Ava. Let's compare notes! Sending you a file now...

Chairman:

Give us another 10 mins to analyze the data...

Page 35

(She tilts her body and looks at the data file on her second monitor.)

The analysis is identical to hers other than the fact that it also shows IP addresses and some analysis confirming that bots and trolls had hijacked the petition on MakeYourOpinionCount.org.

Ava:

You guys seem to have a lot of data! How on earth did you manage to do all that?

An Internet Protocol address (IP address) is a numerical label assigned to each device connected to a computer network that uses the Internet Protocol for communication. An IP address serves two main functions: host or network interface identification and location addressing.

Page 36

Chairman:

We have the very best working with the U.S. I'm quite certain that the Russians have been trying to derail us from the inside out.

And they don't need guns or Weapons of Mass Destruction to put us on the path of chaos. They just need your social media data.

Moscow is supplying a load of nonsense to a multitude of anti-vaccination petitions and groups. It is a ticking time bomb which is going to blow up in our faces unless we do something about it!

A major challenge facing us all today is the integrity of the data we are drowning in. Who is behind the post? Is the social media post real? This is the disinformation pandemic, Ava.

Ava:

I hear you. I just don't know what I can do to help.

Chairman:

What social network even has time for extensive fact checking these days? The velocity of news outstrips human intervention and the AI we have can be trained, but is not quite there yet.

Ava:

Has there been any research or data that may help us differentiate between the algorithm responses versus those by the trolls?

Chairman:

You noticed a pretty simple trend on that petition. It's often way more complex. It's a pattern the human eye often misses and sometimes requires, shall we say, "going the extra mile."

Also, one of our guys at NICT proved that a bot never replies to another bot's comment.

It's taken us years to develop the resources and capability we have today. There are many of us looking to protect what we love. I want you to join the family, Ava! We all want the same thing.

Together, we can build our group of digital patriots to face these bad actors. And more people like your dad can be protected from the fallout of what is largely going unnoticed by the country.

Ava:

This is bigger than anything I could have anticipated. But, forgive me, all of this feels like a bad dream! I don't even know who you are!

Chairman:

Our secrecy is part of what keeps us all safe.

We 'exist' in cyberspace. But should you choose to be our voice to the outside world, we can provide you with unparalleled resources to conduct your investigation.

I'll leave you to it. You know what to do.

Page 37

The next day...

(INT. Ava's room)

(She puts her phone on a tripod stand and starts to record herself.)

Ava:

My name is Ava Williams. I'm a graduate student at U. of Ann Arbor. Welcome to the beginning of my journey for truth.

We are in a war against enemies invisible to the human eye. One that has taken more lives than we could have ever imagined: the COVID-19 virus.

My father works at the local 5G company, he was ambushed at a 5G Tower he was called out to fix. These towers were attacked by some punks, who wrongly believed that there is a link between 5G and Covid.

He was attacked, but these weren't ordinary muggers. They were influenced by a conspiracy much larger than the sum of its parts.

Page 38

Ava gets ready for her trip, brushing her hair.

The second phase of her recording is her holding her phone as she makes her way to the car.

Developing and administering vaccines to people is one way to protect citizens against COVID-19 and lots of work is being done to push this ahead.

We have now developed multiple great vaccines. However, this is controversial, and foreign forces have fueled the anti-vaccination groups by creating a false narrative around how these vaccines are dangerous and seeding false evidence.

The outcome has hurt innocent people like my father.

Even as an aspiring journalist I didn't realize the potency of disinformation until all this occurred.

And, if we don't protect our society from the menace of synthetic and inaccurate news, we may be facing outcomes that none of us are prepared for... And ones that our enemies hope for!

She is shown driving to Park College University in Maryland.

(Inside her car): I will be meeting Dr. Emily Hartman who is the chief vaccinologist at Park College University. They have also been working on a project to introduce a vaccine that will be effective against further strains of the virus and generate greater supplies of the vaccine.

We can't afford to be silent. These aren't just American lives, but all of humanity is at stake here.

Page 39

Ava begins the long journey from Ann Arbor to Park College University.

Ava spots a gas station somewhere close to Pittsburgh, on her GPS.

Page 40

(She stops to take a break and to buy some refreshments.)

Ava sees the same car she saw earlier, pull up next to her at the gas station.

(She walks into the shop at the gas station and picks up some snacks and a drink.)

“Ping” the till rings, as the cashier counts Ava’s bill.

Cashier:

That’ll be \$7.50.

Ava:

Thanks.

Ava spots two figures entering the shop and a worried expression appears across her face.

Page 41

As the figures begin to follow her, Ava ducks behind a shelf, out of sight and manages to run out of the door.

Assailant 1:

We lost her!

Page 42

Early next morning after the long drive...

Dawn breaks over Park College.

(INT. Park College University Parking lot)

(Ava drives the car into a car park and takes a parking stub.)

Page 43

(She gets out of the car.)

(She walks towards the school of medicine.)

(She calls Dr Hartman.)

Ava:

Dr Hartman? I'm here at the reception.

Dr. Emily Hartman:

Of course, Ava. I'll be downstairs soon. Hope you're wearing your mask?

Ava:

(Laughs)

Haha, Don't worry! I came prepared.

(Elevator comes down with Dr. Hartman)

(Elevator doors open.)

Dr. Emily Hartman:

Ava?

Ava:

Hey, Dr. Hartman! So great to finally meet you!

Dr. Emily Hartman:

Welcome to Park College!

How was the drive? All the way from Ann Arbor... sheesh.

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Ava:

It wasn't that bad! Not that many people on the road.

Emily:

Why don't I take you up to the lab? We can talk more upstairs.

(They enter the lift.)

(They reach a door.)

Emily:

We have to go through a very comprehensive sanitization procedure!

Please leave your backpack and other belongings here. And here's a lab coat... gear up.

They enter a lab and see the various doctors working on their apparatus.

Ava:

May I record this?

Emily:

We don't usually allow it. But considering you've come all this way and you have been recommended by Symous...

May I ask why?

Ava:

You know about Symous... Oh, never mind! Why am I so surprised!

People need to know the truth. We're at war with something that could give this virus even more power.

Disinformation.

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Emily:

I understand. We have nothing to hide here, and the stakes are very high. I'll make an exception.

(Emily points to the scientists working on different apparatus.)

What we have developed is a messenger RNA vaccine. This works by conveying genetic instructions to cells so that they are able to synthesize specific proteins which, in turn, kick off antibodies that protect cells by fighting the coronavirus.

Ava:

Interesting. So how have the trials been?

Emily:

Let me show you something I recorded at the Coalition for Covid Vaccine Development, a virtual conference where a number of the most respected scientists broke it down for another journalist that asked about the different approaches...

Our phase 1 and 2 trials have been a success. Even as the scientific community is now working to understand whether the vaccines they have developed are effective against new strains of the virus and the impact of these new strains on the human body, others are working to figure out the best way to get the vaccines delivered and administered.

As you probably know, the process for creating a vaccine is more of a marathon than a sprint. Coming out with a legitimate vaccine so fast has been a victory for science. Here in the U.S. we are also working hard to ensure that we are able to vaccinate as much of the population as we can. There is no one way to develop a vaccine. At any given point in time multiple research teams are often exploring different ways to attack a specific virus. That's why our country always requires vigorous testing and trial processes before we make vaccines available to the general public.

(Dr. Emily plays the BOOM recording on her laptop and a few colleagues are shown across private and public sector explaining the approaches.)

(Title shows Dr. Mehmood Gotaywala from CDC, Atlanta):

A number of trials are underway with various approaches. From mRNA Vaccines to Protein-based vaccines, as well as DNA-based and inactive virus-based vaccines in development, there are a wide range of studies underway to see where the best efficacy may be. Although there are several vaccines still being developed, our current vaccine has an efficacy rate of 90%.

Journalist: Can you simplify that for us Doctor?

Dr. Daichi Nakazawa (female/Japanese Researcher):

If I may... . What Dr. Mehmood Gotaywala is saying is that we have explored all possible approaches when developing our vaccine initially. Let me simplify how these approaches work. This will take a few minutes, but I promise to keep this all fairly high level.

The first approach, which is the best known, is simply taking a version of the virus that can do no harm, such as inactivated or weakened strains, and introducing it to the human body in such a way that it creates an immune response. This immune response then acts against the real pathogen if it comes in contact with it.

Dr. Daichi Nakazawa:

Another approach that some of our colleagues have pursued involves not introducing a Whole Virus into the body, but rather delivering genetic instructions which signal the body to create a protein that, in turn, then stimulates an immune response and produces antibodies.

As the word implies, the antibodies are then able to fight the Virus if it enters the body. We call these DNA vaccines. DNA is what carries the genetic instructions, as you may be aware.

There is also yet another approach that skips the DNA altogether and instead uses Messenger RNA or mRNA. Most vaccines create an immune response, by inserting a weakened strain of a virus into our bodies. mRNA vaccines, however, create a protein in our cells instead, which in turn results in an immune response, as our body identifies that this protein does not belong in our system and builds antibodies for protection. The immune response that is generated then protects from further infection against the virus.

(Dr. Emily pauses the recording.)

Ava:

That's probably the clearest explanation I have ever heard! I have so much respect for what you are all doing...

Dr. Emily:

Thank you, Ava. We have been successful in creating a vaccine in record time, which underwent extensive safety evaluations as part of clinical trials before being widely distributed.

There are, of course, many other approaches which I did not get into. We anticipate over 100 different projects around the world that are pursuing this study.

Private and Public sector have all thrown everything and the kitchen sink at the problem. I am sure that you would have seen that some household names, including some tech moguls, have pledged a billion dollars in support. But the good news is that we are now on track to having an effective vaccine that will hopefully start to be rolled out to the public soon.

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Ava:

If there's one message you'd give for the general public to take away, what would it be?

Emily:

Please trust us. Believe in science and modern medicine. These vaccines were developed rapidly because we have experience with the technologies. We don't simply do what we do without the rigor of scientific evidence.

A vaccine has never been developed at a pace as accelerated as this. It's not just been us; Understanding the virus and what is needed for an effective vaccine takes a multidisciplinary effort from many groups.

Even as the scientific community has worked to finalize the vaccine, others are working to figure out the best way to get the vaccines delivered and administered.

Ava:

Thank you.

Emily:

Ava, there's someone I want you to meet. He'd probably have a better understanding of the motives and origins of some of the anti-vax groups that are strongly against the idea of a vaccine.

He's a media studies professor here. Dr. Haris Adamos.

I had mentioned your visit to him in passing and he said he would be up for showing you his research!

Ava:

That'd be great, thank you.

(Ava walks to Tawes Hall.)

(She goes to the faculty offices wing.)

(She knocks on Professor Haris's door.)

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Ava:
Good evening. Doctor?

Dr. Haris
You must be Ava!
(puts on his mask)

Ava:
Yes sir.
(INT. Harris room)

Dr. Haris
Please, have a seat.

Emily tells me you are working on something big related to fighting disinformation around the Covid-19 vaccine?

Ava:
That's right... I'm working on a documentary that sheds light on how certain groups are linking 5G to the weakening of people's immunities and rendering the vaccines useless.

Dr. Harris :
Well... I have been looking at the vaccine, but it has nothing to do with 5G or any such nonsense!

My data science team uncovered how a handful of people are funding ad campaigns to grow the anti-vax movement in the US.

Certain communities have particularly strong response curves to this social media marketing! Social media giants need to help put an end to what is so clearly a national risk!

Ava:
That's interesting. Have you been able to follow the money?

Dr. Haris.:

These investments are legal as far as I can tell, but it is likely to hurt people because it usually involves spreading falsehoods. Like any medication, vaccines can cause side effects. Usually vaccine side effects are minor (for example, a sore arm where a shot was given or a low-grade fever after a vaccine) and go away on their own within a few days.

We have not managed to trace the money quite as far as I would have liked to. Some is coming from the private investors, but others, I am not too sure at present.

It's a labyrinthine network of companies which, if I am honest, is not what we are set up to look at... but if you know any financial crime experts who have more experience tracking the flow of money,

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Dr Haris:

What you are doing... it's commendable! I do see the need to fight against disinformation that could lead to lower take up of any vaccine! I am particularly worried about the Anti-vax movement.

You cannot use scientific rationality and numbers to win this war, Ava. You need to win their hearts and minds first and then show them the truth!

...you do have concrete proof, right? That there are groups deliberately setting out to influence them?

The other challenge is that you have to persuade them through their own media. They don't trust mainstream news, as I am sure you well understand. You will need to meet with Darren Lancaster, who leads TrustinNature, the most popular anti-vax site, and be "invited" to share a story... and the irrefutable proof.

My research is all out there already, but I am seen as too pro-vax to have a voice there!

Ava:

I have the proof, Doctor! And, together with your data, I think we could make sense of it all for them... I just need to get in front of them.

Dr Haris:

Well, I did have this incredibly... shall we say "animated" debate with Darren over a text war. Let me see if I can find his number... Could give you his -- ah! There it is... Darren's number...

Ava:

Ok, let me get that from you!

(She writes it all down. Show note with writing.)

Dr Haris:

I will send over the data I have too, so that you can share it with Darren. Show him that none of this is doctored. The only things made up here are those ads!

Ava:

Thank you Doctor. I really appreciate this!

Doctor Haris:

Call me Haris!

Ava:

I'll do my best. Such a pleasure, Haris.

George:

Take care Ava, and good luck.

(Ava walks out of the room.)

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Ava gets a call from Dr Hartman as she leaves the University.

Dr Hartman:

Hello Ava. There was a ransomware attack on our research shortly after you left. I just wanted to make you aware of this as this may be relevant for your story. Symous just helped our Information Team foil a ransomware attack on the vaccine research.

Ava:

I wonder why they would attack your vaccine research and not others? Do you think it has something to do with my visit?

Dr Hartman:

Yes! Part of their demands include that you kill the story and they've asked for \$3 million to be deposited into a crypto wallet within two days or they delete the data. Little do they know that our team had already anticipated this and worked with Symous to set up a decoy server, which is what was attacked.

Let me patch Andrew into the call too.

Andrew Wilson:

Hey Ava, Emily.

In case you're wondering, all of the actual data is post-quantum encrypted and now lives on a secret server in an undisclosed location. The University's Information team had shared their fears of an attack, and luckily they already had backups of their data in place, in case such an event took place. Thanks to their quick thinking, we didn't have to do much and we worked quickly to make the data even more secure using post-quantum cryptography.

This is the best way to secure data and works by using photons of light to encrypt data in such a manner that it is even safe from a quantum computer, which is the most powerful computer currently in existence. The team agreed that this was the most effective and fastest solution to protect the valuable research they have been doing. This attempt at an attack highlights the need to protect computers and sensitive data from being hijacked and the importance of using the most up-to-date methods to do so.

Ava:

There is a vast difference between spreading disinformation on social media and using ransomware which is illegal behavior. At least we now know that I'm being watched and whoever is behind this does not want my story about the manipulated petition and its false link to the vaccine to be exposed.

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(Ava continues the drive back to Ann Arbor and gets in touch with Darren Lancaster when she returns home.)

(INT. Ava's room)

(A panel of her on her desk, with a piece of paper.)

(Show a panel of her pieces of paper (with notes) suggesting she has figured out the possibility of doing a interview for Darren Lancaster; she sticks this onto the side of her laptop screen.)

(She calls Darren Lancaster.)

Ava:

Good morning. Is this Mr. Darren Lancaster?

Darren:

Yes, that's me.

Ava:

I'm Ava Williams, Dr. Haris Adamos referred me to you.

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Darren:

Oh... him. I'm sure he had a lot of things to say!! What do you want?!

Ava:

He just said you both agree to disagree on a number of topics and that you were an expert on Anti-Vax perspectives. I was simply hoping I could ask you a few questions?

Darren:

Fair enough, what kind of questions?

Ava:

I am part of the team behind a new documentary on the different views around the COVID-19 vaccine and wanted to get a balanced perspective from all sides now that we do have several working vaccines.

Darren:

Well, if you have spent any time researching my point of view, you know exactly what would happen in our community if there is talk about a vaccine!

Absolutely nothing!

Ava:

I would like to interview you. Think of this as an exclusive opportunity to share your views with a wide audience!

Darren:

Sounds like a plan. I'm good with Monday. This is a surprise, but a welcome one. We need diversity of thought.

Ava:

Thank you so much for the opportunity. I will send you the logistics over a text. Are you ok to come to the studio?

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(1 week later)

(One week later, in the Media Recording Lab in the University.)

(The setup is like a podcast; think Joe Rogan Experience.)

(Ava is waiting on her side of the table.)

(Darren Lancaster joins her virtually on the side of the table with a virtual appearance on an iPad.)

Ava:

Pleasure to have you with us, Darren. Let's dive right in... Can you tell me a little more about your role at TrustinNature?

Darren:

Sure. I head up the nation's largest digital anti-vax community. We have over 15 million members around the nation!

Ava:

That's quite a footprint. What is the core reason you're against vaccination?

Darren:

Much of what we see being peddled by the government is pseudoscience with inconclusive data supporting their hypothesis. We have our own Science teams that have shown that the data itself is questionable around how well these new vaccines work! Our backers believe in our mission too. We are here to protect America.

Ava:

Personally, do you think the very idea of government organizations in the health sector promoting vaccines is wrong?

Darren:

Yes, I do think it's wrong. The influenza vaccine has not quite worked.

Like I said earlier, and as we can now see, vaccines aren't perfect. They're not even free!

Ava:

Do you ever think whatever you believe could at least be remotely connected to disinformation or some social media wildfire?

Darren:

Even if it is true, I still believe it's the selfishness of the system. And for what? The news and evidence is there.

Ava:

What if it's not genuine?

Darren:

So are we going to keep giving mainstream media total power?

Many diseases have been eliminated from this country, so why perpetuate the vicious cycle? Flu shots have even been correlated to influenza in the past.

Ava:

But what about COVID-19? It's a disease no one has really heard of till now.

Darren:

There are many interventions that don't involve a vaccine.. Herd immunity is a thing, right?

Ava:

Don't you think there'll be too many deaths before we reach that?

Darren:

Don't people die every day? No one bats an eye: war, poverty, corruption. We haven't even been able to eradicate influenza for crying out loud.

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Darren:

We have some hard sacrifices to make.

All the vaccines American kids have been hit with, don't you believe we've been clogging up their immune systems?

Ava:

What about the facts and statistics organizations like the United Nations publish?

Darren:

Just because it's a number doesn't mean it's true. Don't you think metrics are used to push an agenda, under a cover of being objective?

We need to listen to the public, and with several million voters as members, we think that TrustinNature has the potential to be an important voice in the space.

Why not the same here? Parents have to be able to decide for their children, not the government. What parent would want their kids to be plagued by autism or arthritis?

Apparently, it seems that way, given the billion dollars' worth of marketing these medical companies invest in.

Ava:

Speaking of marketing dollars, it appears as if your group is one of the two spending tens of millions on digital advertising on Friendplace and other platforms? Can you elaborate on your donor base?

Darren:

No comment on our donors. Some are public and others prefer to be kept out of the spotlight. So, in deference to their privacy, let's please move to the next question.

But "yes," to answer your question, we are spending on digital advertising as it seems to be the best way to grow our base.

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Ava:

Do you think 5G would render the vaccine useless?

Darren:

I have seen some chatter about this. But we have to wait and watch. Could be? There's a petition in a state correlating its development to weaker immunity.

Ava:

But are you aware that the petition has been hijacked by trolls?

Darren:

No-- I-- What do you mean?

Ava: I mean to say the petition was about protesting against the installation of 5G networks and the impact of their effects on our health. We studied the posts and can conclusively prove that a large number of comments and posts on the petition were "suspicious". We have evidence that they were not made by people in the United States. In fact, some of these posts here were not even made by real people, instead they were made by bots!

(The screen floods with shocked and angry emojis on Friendplace LIVE.)

Darren:

This feels like an ambush! You should have shared that with me before this.

(Composes himself)...

Nevertheless, please share your analysis with our team of data scientists and forensic technologists and we will publish our own independent findings.

Ava:

My apologies, my intention wasn't trying to spring anything on you, but I wanted to make you aware of these data points. I know that Dr. Haris Adamos has also showcased analysis that has highlighted how much of the advertising online around the Anti-Vax movement is just two parties: One of which is yourselves, and one other is a questionable organization that we have not been able to get any comments from ahead of this!

Darren:

We can't control what others do on the internet! It is their prerogative to advertise.

Ava:

Do you not believe that lack of interventions against COVID-19 could lead to harm?

Darren:

I believe that a vaccine is not the only intervention. Our communities are fully compliant with social distancing and take all protective steps to ensure the safety of their loved ones! Thank you very much for this opportunity to share our perspective. But I now believe that we are not sharing any new information with viewers and so I would like to wrap up. Thank you again, Ms. Williams.

Ava:

Thank you for joining us. When we return we will meet with a family that has come around to the idea of a vaccine without compromising their value system.

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(She is shown getting up and having her mic taken off by a set worker. We also see a family being led up towards the stage.)

Cameraman:

Sanchez family, we are ready for you!

Preparations for the next segment begin.

Ava removes her mask, as she exits the building.

(She hears a ping. Ava looks through her messages.)

(She finds a message from an unsaved contact.)

Chairman on text:

Hey Ava, this is the chairman. That went about as well as could be expected :) Message me here when you are done. I have some news for you!

Ava on text:

Feels creepy that you are always watching.

Chairman on text:

Just remember... we are not the only ones watching.

(Scene cuts to the interview with the family also wrapping up.)

(Ava rings chairman.)

Ava:

Hello, chairman.

Chairman (Andrew Wilson):

Looks like we are making some headway.

Ava:

Yes. I think it's going well. We need to seed that interview as widely across the internet as possible. And I know that TrustinNature will cover it as Lancaster is on it. I made some time to speak to the chief at Maryland.

Chairman:

We have done what we needed to do and our influencers have been paid to seed your segment across every major Social Media Channel. Your interview is already blowing up all over the web. And the petition is getting heat!

Ava:

No wonder my phone is pinging like crazy. I had to turn off notifications!!

Chairman:

That is the power of the new normal when it comes to news. It cuts both ways. The trolls have also started to fight back. But too many independent groups are running the data. Your conclusions have

already been confirmed by media, independent bloggers and foreign correspondents. Now we wait and see what happens. I expect some pushback!

Ava:
Should I be worried?

Chairman:
Don't worry, you will have support and a private detail.

Ava:
Thanks, and will do. I don't know how to thank you!

Chairman:
I think someone is waiting for you at home. Why don't we touch base after? And don't worry, he is in very good hands!

Ava pulls up outside a residential area.

(Ava to herself)

I can't believe all this has happened in just one week.

(Frank is sitting propped up on his bed, the news is on.)

Frank:

Ava? Honey, is that you?

(Ava walks up to him and gives him a hug.)

Frank:

Ava? I've been so worried about you. Someone called and told me not to worry. Who was that? Never heard you mention them before? Then I saw you on the news! I am so proud, kiddo!

Ava:

Sorry, should have said something. Just some people working with me on the story. I've been alright. You're the one who needs the looking after, Mr. Superhero. Try not to go after the bad guys yourself next time!

Frank:

Says Ms. Lane with all her reporting! Hah!

Frank:

Honey, you look tired. Have you been getting enough sleep?

Ava:

Not going to pretend otherwise. It's been a bit much ever since... the incident. I do feel I may be coming down with something!

(There's a BREAKING NEWS alert on the TV.)

Reporter:

We interrupt our current broadcast to bring you news from the capital city.

We have arrested a suspect who has been identified as the mastermind behind the arson of the 5G towers in Michigan. This arrest was made after an anonymous tip was given to the local police.

The suspect has been identified as Gareth McGibson. He is currently being investigated for ties to the anti-vaccination petition and links to foreign backers. According to our investigations, McGibson had been orchestrating this attack, and attacks on other 5G towers with the help of these backers.

(Show police raid via police camera mount.)

(Ava gets a phone call.)

Frank:

Who is it, honey?

Ava:

Just work, dad. It's perpetual.

Frank:

I don't know what you're working on, honey. Can't you take some time and rest??

Ava:

I will. Just need to see this thing through. I think I'm onto something. I promise I'll get my 8 hours of sleep after this is over.

Frank:

That's my girl. I'm so thankful the injuries aren't severe.
You and me, all we have is each other.

Ava:

Me too, dad. It's so good to have you back.

(Ava picks up.)

X:

As you may have heard, our plumber fixed the leak. The job's all wrapped up now.

Ava:

I thought you had something to do with it.

Modulated Speaker Voice:

Something else is brewing. Possibly your next big story! If you can handle it!

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Cut to the ending, where we see Ava receive an award for her work.

A few months later - Ava arrives at The National Journalism Award Ceremony.

The Paparazzi is present and Ava sees some familiar faces.

(Ava is ushered in by a hotel attendant.)

Hotel Attendant:

The ceremony is this way, Miss Williams.

Presenter:

Our final award for “Best Newcomer and use of Digital media” goes to someone whose work has been instrumental in educating people during a time where disinformation is rampant and people are quick to believe news without verifying its accuracy.

The award goes to Miss Ava Williams.

She has done great work around highlighting the benefits of a vaccine which will counter the virus and encouraging people to explore differing viewpoints. Most notably, her work resulted in a tip-off that thwarted an attack on an important vaccine stockpile.

We owe Miss Williams a lot of gratitude for her efforts and she is a very worthy recipient of this award.

Applause.

Ava goes on stage to collect her award.

Ava:

Thank you. It's a great honor to receive this award.

The internet sees a huge volume, and variety of information pass through it every day. Politically, socially or economically we will probably disagree on a lot of things. But there is no place for disinformation in our lives.

As someone who is just starting my career as a journalist, I am honored and excited to be a part of a field dedicated to holding ourselves and our institutions accountable. People can get information from many places these days, making our ability to educate the public through accurate, fair, and factual reporting even more important.

Many of us are working to fight disinformation. I thank you for recognizing my efforts and am grateful to have had the opportunity to have played a small part in a much bigger story.

Thank you!

END

Notes From CISA

Disinformation is an existential threat to the United States, our democratic way of life, and the infrastructure on which it relies. The Resilience Series (of which this is the second title) uses the graphic novel format to communicate the dangers and risks associated with dis- and misinformation through fictional stories that are inspired by real-world events.

The Resilience Series graphic novels were commissioned by the Cybersecurity and Infrastructure Security Agency (CISA) to share information to illustrate:

- 1) Foreign actors are trying to influence U.S. security, economy, and politics through the malicious use of online media to create and amplify disinformation.
- 2) While the strategy of using inaccurate information to weaken and divide a society is not new, the internet and social media allow disinformation to spread more quickly than it has in the past.
- 3) Deepfakes, bots, and troll farms are just some of the emerging techniques for creating and spreading disinformation.

CISA encourages everyone to consume information with care. Practicing media literacy – including verifying sources, seeking alternative viewpoints, and finding trusted sources of information – is the most effective strategy in limiting the effect of disinformation. For more information and further reading about disinformation, please visit the Cybersecurity & Infrastructure Security Agency website, www.cisa.gov.

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Back Cover

We live in a world where the World Wide Web is rife with misinformation and disinformation. In a precarious digital world, the need for awareness about this risk is greater than ever. The Resilience Series works to simplify and present the threat inaccurate information can have on important events that shape the future of democracy.

In the second issue of the series, "Bug Bytes," we see Ava Williams use her wits and journalism skills to uncover a disinformation campaign set to damage critical communications infrastructure. Ava discovers a few allies along the way and races to try and help the world see through the web of lies being spun online.