

**IEEE**  
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# IMPOSTOR SYNDROME, ANXIETY, & THIS TECH PROFESSION



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Virginia Tech

Please feel free to comment or ask questions at any time!



Myles Frantz (my Ph.D. student)  
Moderator of this BoF session

# Why do I want to share my struggle?

## Face of impostor syndrome



Persistent self doubt

Anxiety

Lack of persistence

Chronic stress



← Calm on the outside

← Madly paddling to stay afloat

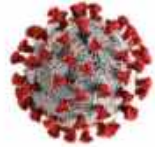
# A quad chart of a tech professional's anxiety

## Tech Work

Comparison to young colleagues

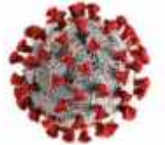
Working in a fast moving field

Asked to fix computers/phones



## Cybersecurity Work

Stuff not secure



## LIFE

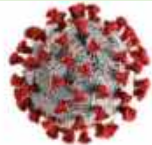
Comparison to parents & siblings

Not spending time w/ kids enough

Fertility related

Marriage

Parenting



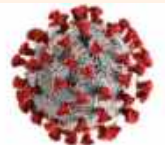
## Basic Work

Unable to write 1 page a day

Too many tasks

Demoralizing collaborations

Promotion/salary issues



The tech profession is NOT a performance-driven profession

**BUT** professionals do need to speak out --  
to lead, to inspire, to create

I realized (circa 2010) that no one had  
heard of me speaking 😞



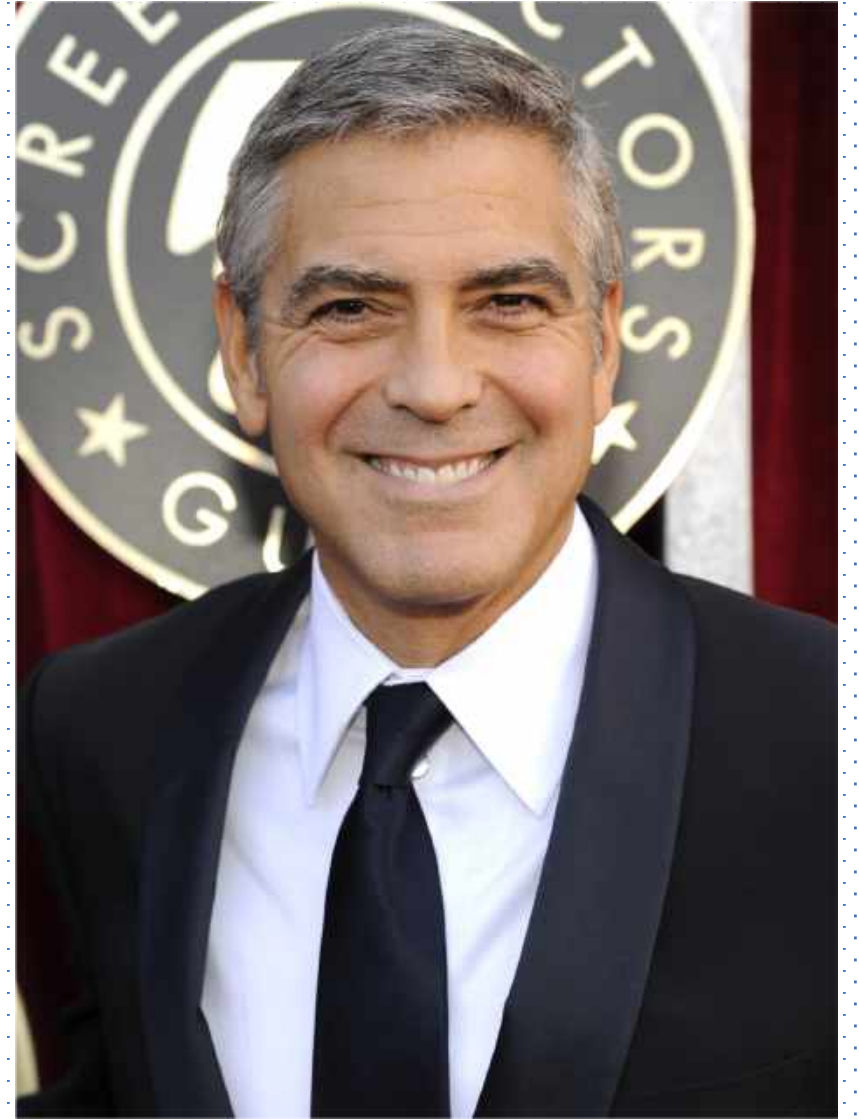
Disney Frozen Musical



“Don’t act differently when you’re around important people.”

-- George Clooney’s advice to a young actor

Hmm... but being yourself is easier said than done



Cybersecurity is an intimidating field -- many people with a hackers' mentality

# Jessica Alba discussed overcoming impostor syndrome

May 27, 2015, 09:57am EDT

## How Jessica Alba Built A \$1 Billion Company, And \$200 Million Fortune, Selling Parents Peace Of Mind



Clare O'Connor  
Entrepreneurs

“For a long time, I felt like an impostor. It's not until you feel whole in yourself that you fit in anywhere.”

## The Honest Company Expands in Canada

*Canadian consumers will now see more products by The Honest Company at retailers.*





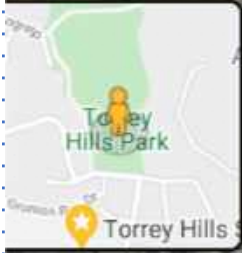
**Impostor syndrome** (also known as **impostor phenomenon**, **impostorism**, **fraud syndrome** or the **impostor experience**) is a psychological pattern in which one doubts one's accomplishments and has a persistent internalized fear of being exposed as a "fraud".

No pills for it

Hit the rock bottom during San Diego sabbatical (2016)







In that beautiful beautiful San Diego  
Torrey Hills Community Park in 2016, I had  
a profound and overwhelming sense of  
**FAILURE -- as a researcher**

# When I felt like a loser, my past achievements didn't make me feel better

ARO YIP Award (2014)

NSF CAREER Award (2010)

CACI Faculty Fellow (2014)

Outstanding New Assistant Professor Award (2012)

Best Paper Awards (2006, 2010, 2012)

Brown University PhD (2007)

Indiana University MS (2002)

Princeton University MA (2000)

Peking University BS (1998)

US Patent 8,266,439 (2012)

US Patent 8,763,127 (2014)

3<sup>rd</sup> US Patent application ongoing by 2016 (approved in 2018)



# My other symptoms (besides thinking I've done nothing)

Unable to think/speak when being challenged 😞

Afraid of sharing my thoughts 😞

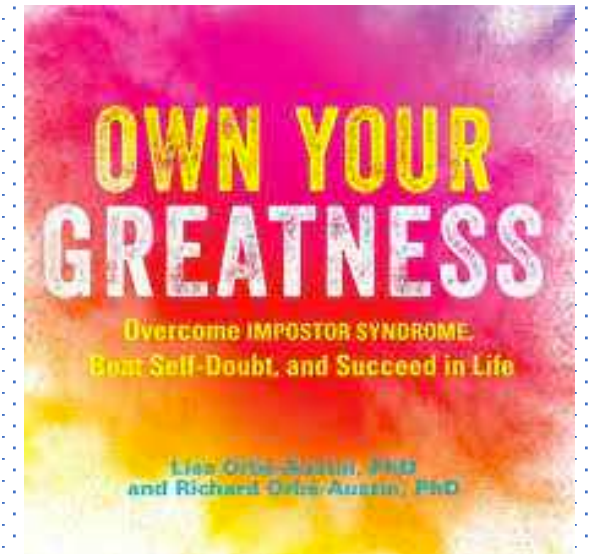
Definitely sounded stupid during media interviews 😞

“You’re the lead author of the work?”

# My other symptoms (cont'd)

Downplay my knowledge, skills, & abilities (intellectual inauthenticity\*) ☹️

Being rather proud of playing dumb ☹️



\* By Dr. Lisa Orbé-Austin & Dr. Richard Orbé-Austin

Everyone's impostor syndrome flavor is slightly different

How did I feel as a research?

Fraudulent

Worthless (and occasionally lucky)

Impostor syndrome is not just a female issue

“When are they going to discover that I am, in fact, a fraud and take everything away from me?”  
– Tom Hanks (2017)



What movies?



# Public faces of impostor syndrome



## Michelle Obama: 'I still have impostor syndrome'

4 December 2018



Michelle Obama: "My parents saw this flame in me"

Michelle Obama has said she still feels "impostor syndrome", adding that "it never goes away".



Anna Watson: I suffered from 'impostor syndrome' after Harry Potter – I felt like a fraud



Anna Francis  
8:00 pm · 15/06/19



Bling Ring star lacked confidence

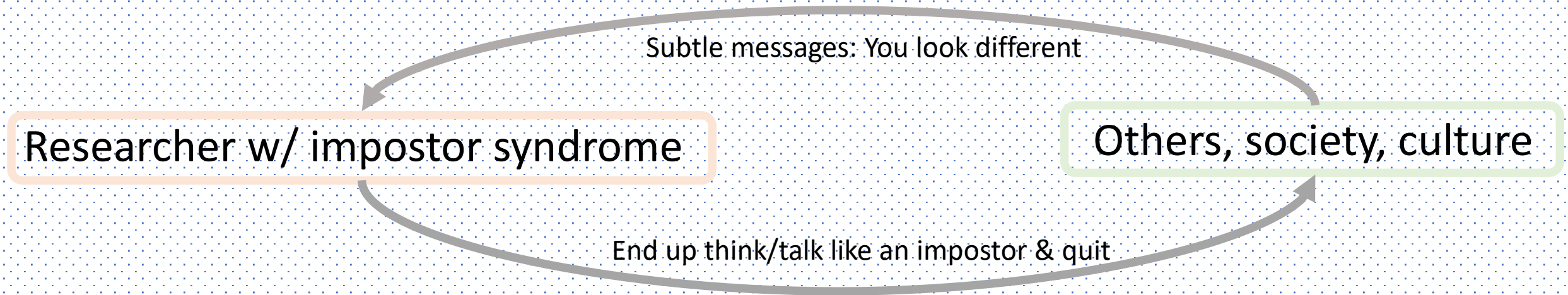


Where does self doubt come from?



Where does the society's bias come from?

# Self-fulfilling prophecy?



My former student -- A masculine white male software engineering intern at Overstock.com mistaken as a custodian

For 20 years, people have been telling me “You smile too much.”

Immigrants’ kids don’t think their parents know America

To smile or not to smile – that's the question





# How to use your impostor syndrome as an asset

PUBLISHED DECEMBER 3, 2018 IN  
INSIDE ATLISSIAN



**MIKE CANNON-BROOKES**  
Co-Founder & Co-CEO

Take one look at my title, and you'd think I know what I'm doing when I turn up to work every day.

Over a decade ago I started a company straight out of university with a mate, Scott. We had no prior business experience and no grand plan. Today we have thousands of awesome employees, and millions of people across the planet use our software every day. Surely that kind of success comes from massive expertise and experience, right?

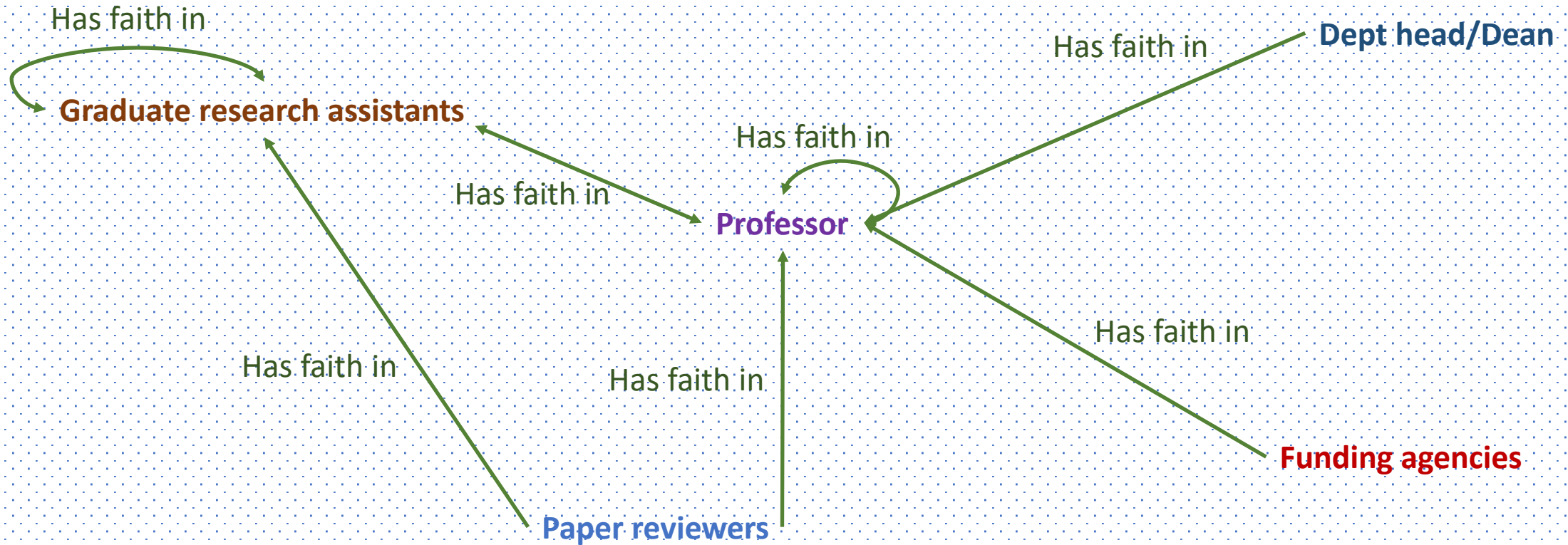


If impostor syndrome is a motivator, then why do tech professionals need to be aware of it?

Doubting yourself – thinking “I suck at research” or  
“I don’t belong” -- is counterproductive 😞

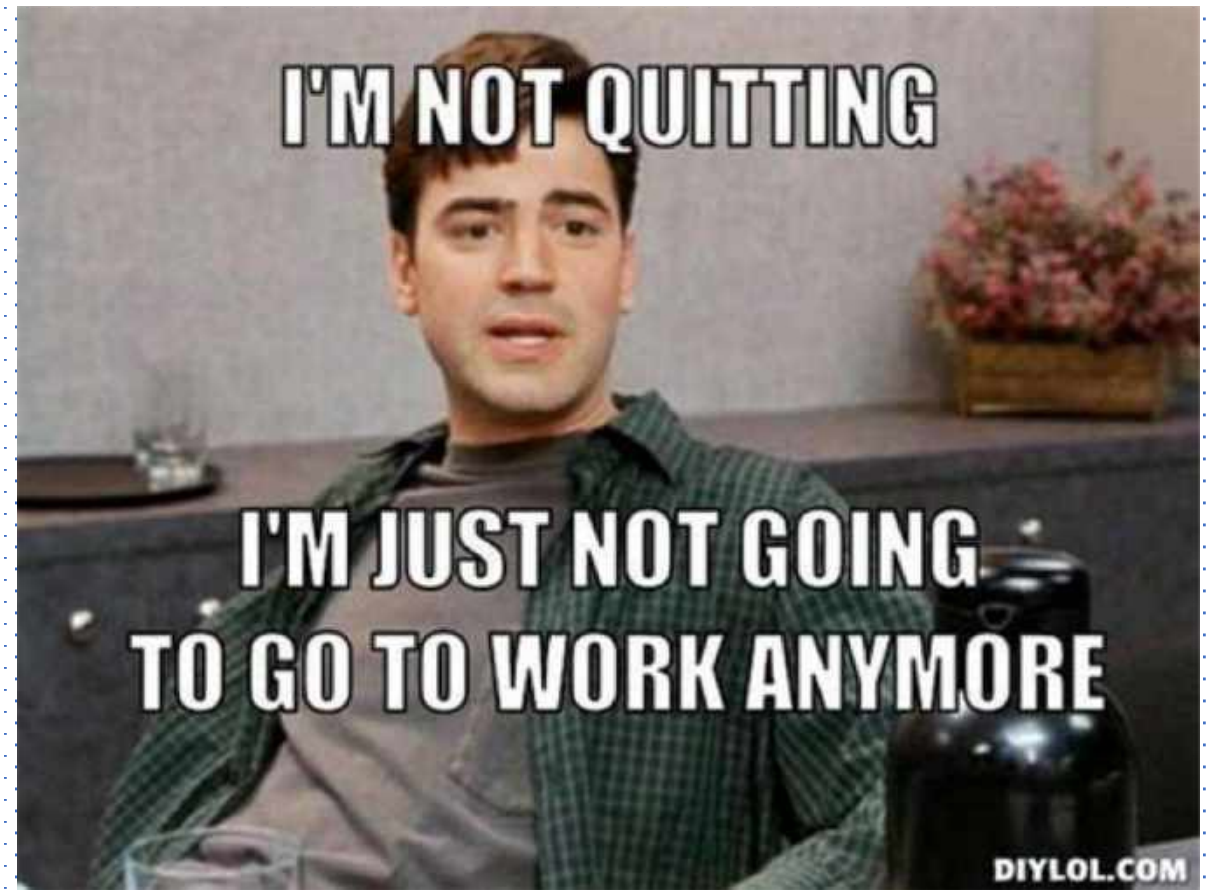


# Stars have to align to get things done



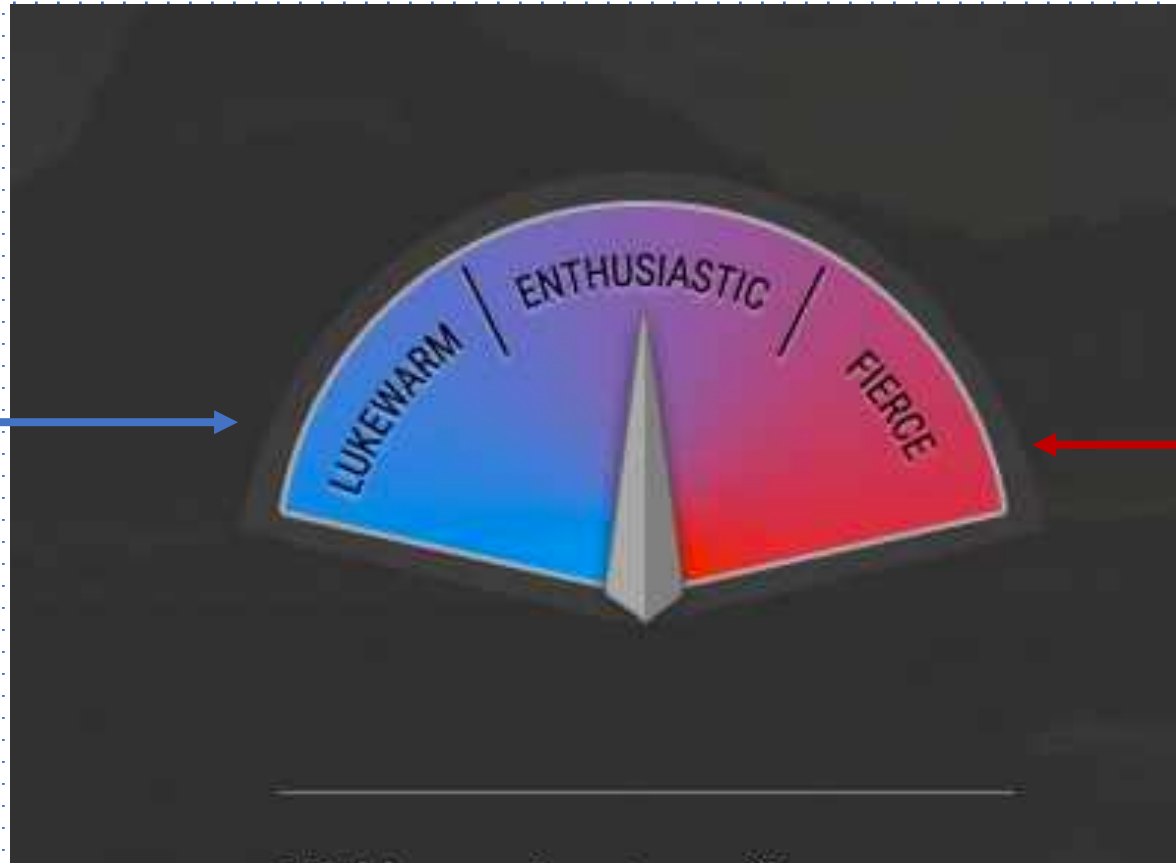
Tech work requires confidence &  
persistence & passion & faith

Impostor syndrome erodes them





# Passion meter -- Where are you as a tech professional?



Dropout or semi-dropout zone

I want you to be here

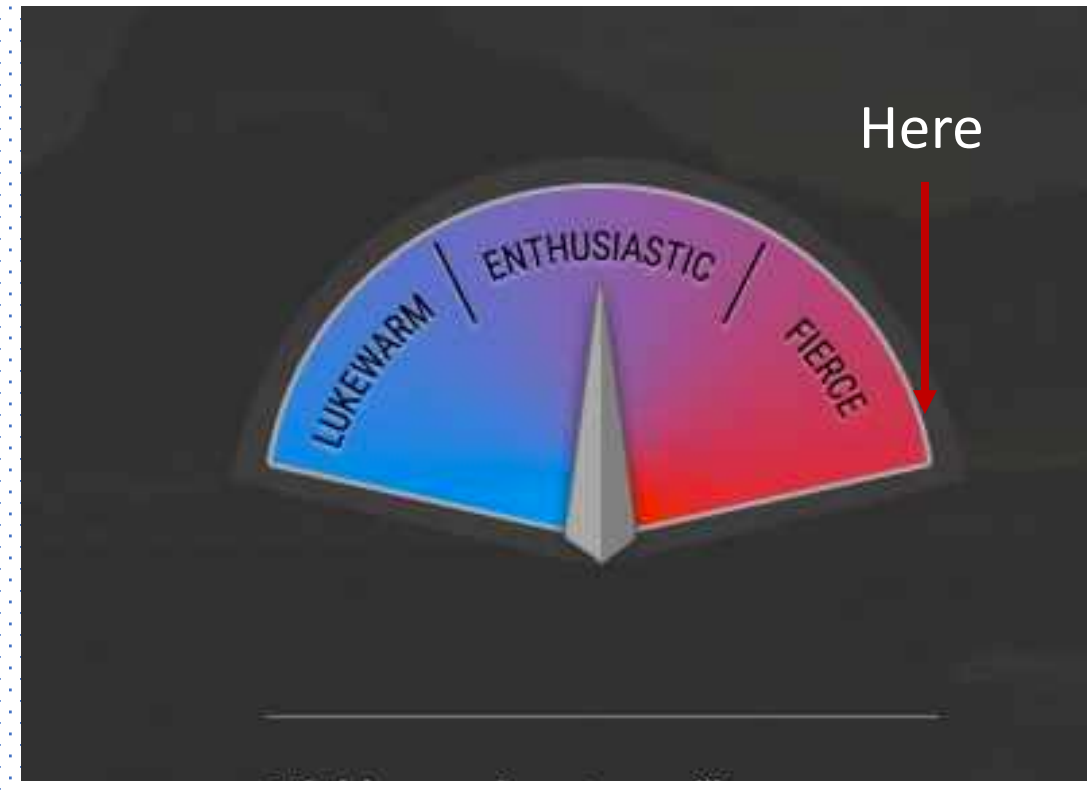
# Impostor syndrome's negative effect – afraid of taking risks

Afraid of stepping into leadership positions & taking responsibilities

Afraid of failures, risk averse

Feeling unqualified or

Afraid of being judged & rejected



Our profession involves risks and uncertainties all the time



# Afraid of inventing something new -- a common pitfall in CS grad research

## Working in a fast moving field

A profound sense of knowledge gaps

- Believe someone else have answers to his/her dissertation problems
- “I need to read all these books before I do research”
- Non-stop reading literature/Google search
- Unable to defend the security of own work



# Learn from Janet Yellen

Former Chair of the Federal Reserve









# Learn from Janet Yellen

“Don’t count me out yet.”

So, don’t quit prematurely!



Yet another negative side effect of impostor syndrome  
– unable to defend your work against critics

“You don’t have new math”

“Your work is insecure”

“Your work is not useful”

“Your result is not surprising”

“You should work on Y, instead of X”

“Not novel”

“Your work is too rigorous for security conferences”

Impossible to achieve  
perfect security

Impossible to please  
everyone

There'll always be  
attacks that evade  
detection

There'll always be  
people who think  
you suck



# Don't go to the other extreme

A bad tech example ☹️



**Don't be Elizabeth Holmes**  
(Google "Theranos")



**Don't be Billy McFarland**  
(Google "Fyre Festival")

How to cope with impostor syndrome?

Know your strengths



**STRENGTHS:**

ZOOLOGY

WEAPONS VALET

**WEAKNESS:**

CAKE

SPEED

STRENGTH

**MY WEAKNESS IS MY STRENGTH?**

# Daphne's No. 1 tip for coping with impostor syndrome

1. Know/find your strengths
2. Let your strengths shine
3. Repeat

This field needs diverse  
cybersecurity researchers  
& practitioners



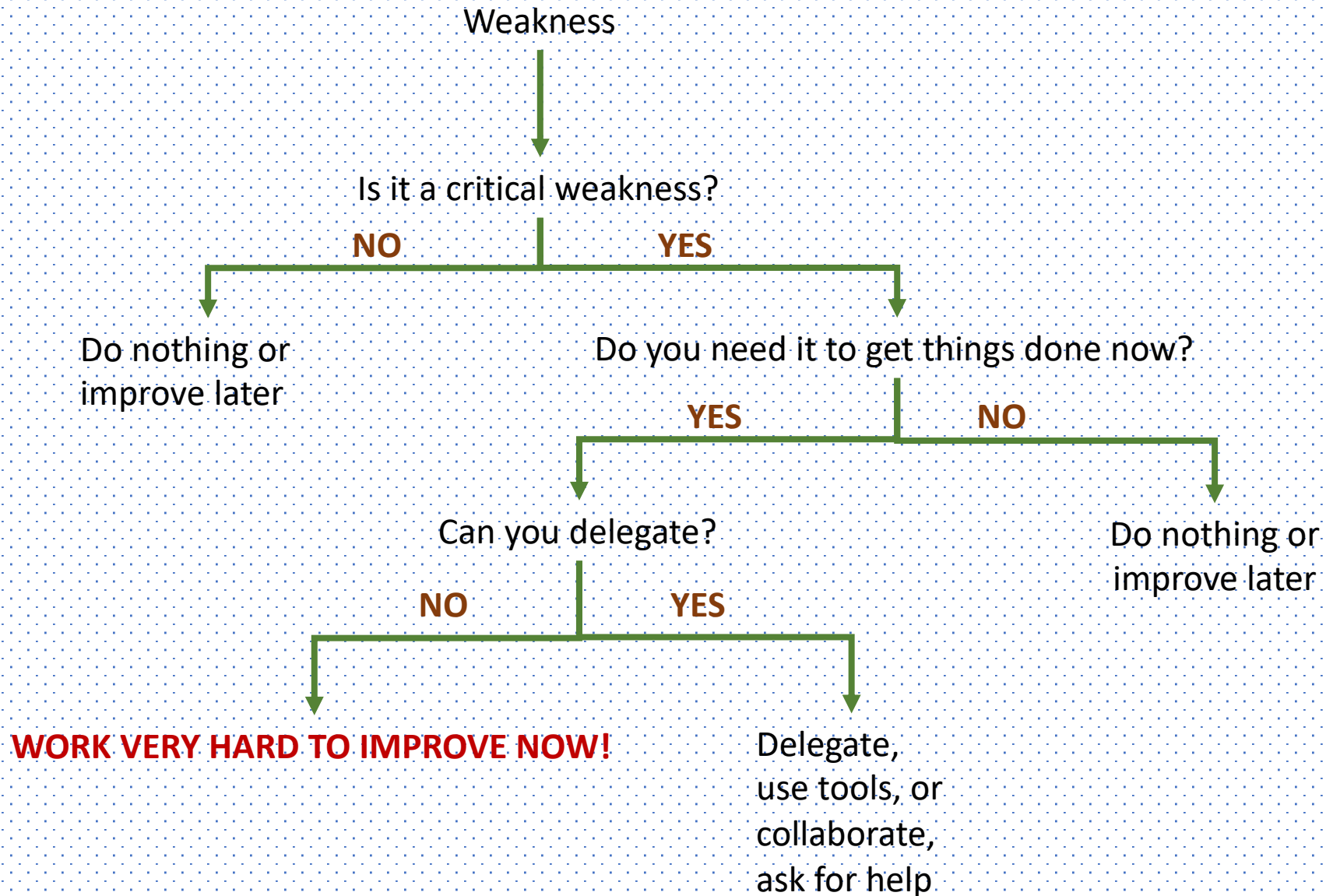
# What about your weaknesses?

~~Fake it till you make it?\*~~

Work hard to improve it^

- "The Secret Thoughts of Successful Women" by Valerie Young
- ^"Faking it until you make it" is misguided advice. From "Unlocking Your Authentic Self" by Jennifer Hunt

# What about weaknesses?

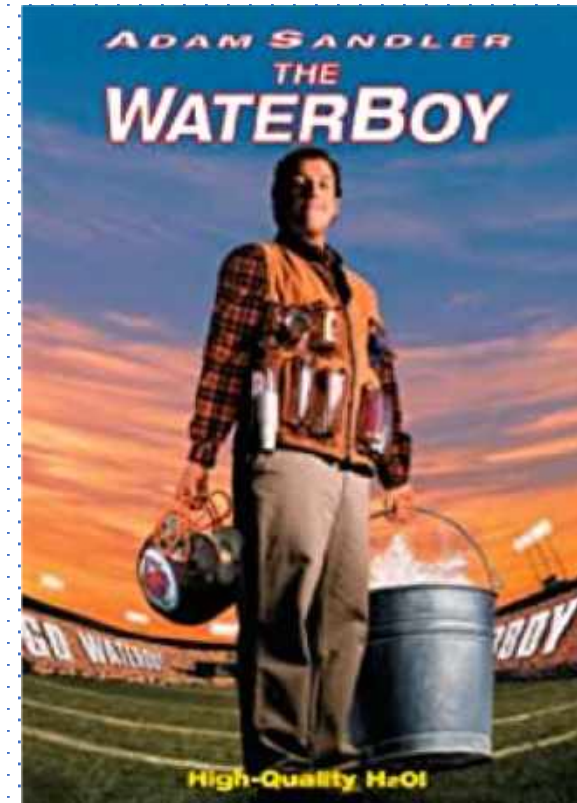




# Overcoming self-doubt



The Replacements (2000)



The Waterboy (1998)



# Your role models don't have to be Steve Jobs

Having role models for different scenarios

They don't have to look like you to be your role models

You deserve a break – break the dreadful  
cycle of 🤖 chronic stress 🤖



## Celebration to overcome impostor syndrome (1978)

“... to listen, to take in the positive response, and to get as much nourishment as possible out of it.”

Also suggested group therapy



From: The Imposter Phenomenon in High Achieving Women: Dynamics and Therapeutic Intervention. Pauline Rose Clance & Suzanne Imes. Psychotherapy Theory, Research and Practice Volume 15, #3, Fall 1978

Celebrate when a bug is fixed, a presentation is done,  
a week is over, a trip is completed, a paper got  
published, a project is delivered, a patent is approved



Support system, support system, support system

Growing a thick skin  
alone is **not sufficient**

“Lean in” alone is **not enough**

Most available resources for impostor syndrome are in  
the self-help category



Find and build your support system,  
Find your allies (NOT just self help)



# ACM CCS iMentor Workshop calls for mentees and mentors

## Keynote Speakers (Nov. 9)



**Raheem Beyah**  
Georgia Tech



**Cristina Cifuentes**  
Oracle Labs Australia



**Bhavani  
Thuraisingham**  
UT Dallas



Everyone is welcome to attend!

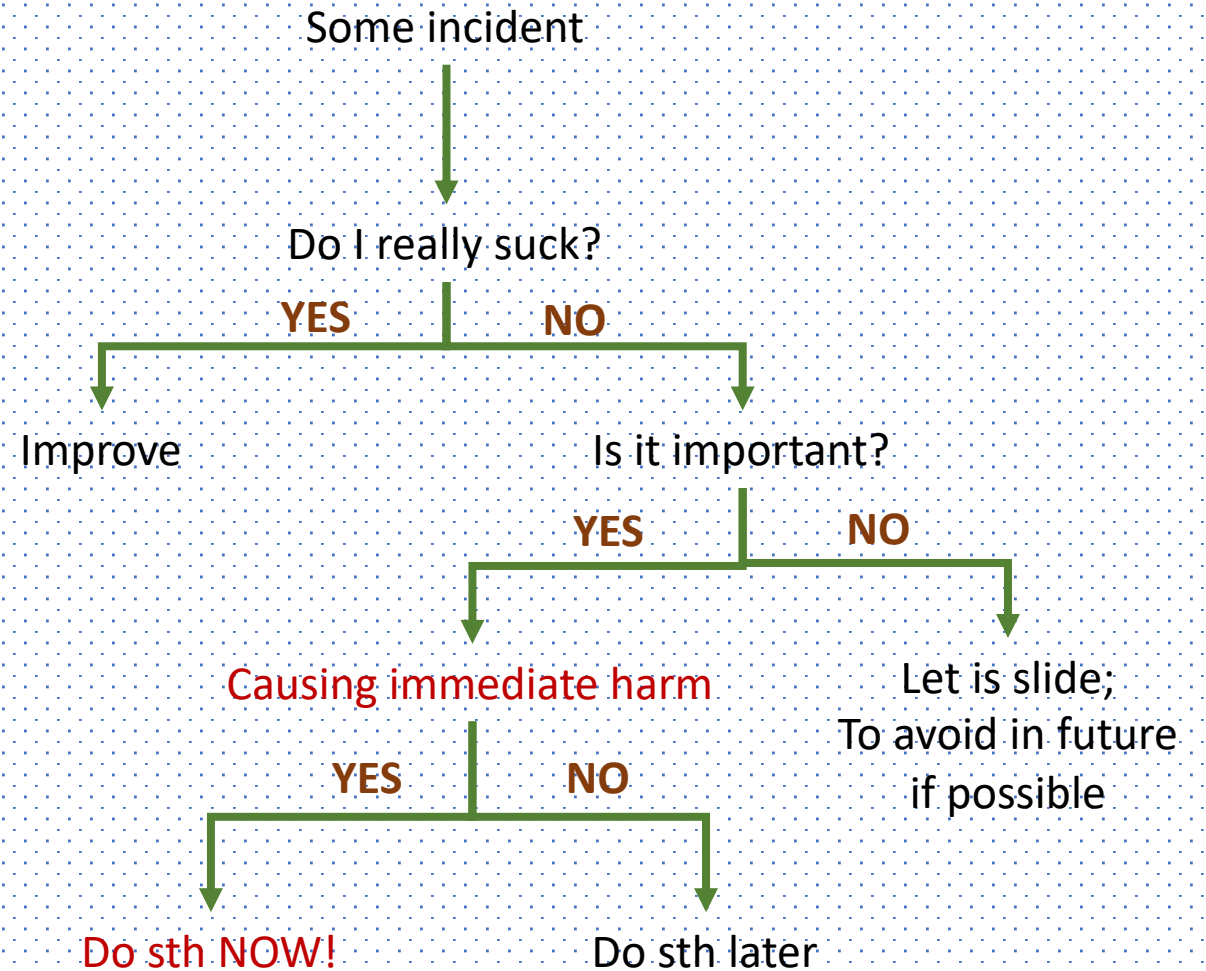
How else to cope with impostor syndrome?

Watch out for impostor-syndrome-inducing incidents

# GUARD your confidence

“Women usually suck at computer science and engineering.”

Sexual harassment incidents



Support systems are (slowly) improving

Code of Conduct required for IEEE CS and ACM SIGSAC conferences





Tech will be better when  
everyone shines!

The Imposter Phenomenon in High Achieving Women: Dynamics and Therapeutic Intervention. Pauline Rose Clance & Suzanne Imes. *Psychotherapy Theory, Research and Practice* Volume 15, #3, Fall 1978

Self help books

