A man in a black hoodie and backpack is walking on a city street, looking over his shoulder. The background is a blurred city scene with a blue truck, a yellow raincoat, and a sign for an art gallery.

*Mr. Robot, an Emmy Award-winning
TV drama starring a vigilante hacker*

CS 88S

Hacking in Popular Culture

Week 2

Frank Chen | Spring 2017

Agenda

- *Administrative*
- *Review last week's material*
- *Hack*
- *Hollywood Hacking:
The Good, The Bad, & The Ugly*
- *Can we do better?*

Agenda

- ***Administrative***
- *Review last week's material*
- *Hack*
- *Hollywood Hacking:*
The Good, The Bad, & The Ugly
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Power of the Internet

reddit ONLINE EDUCATION hot new rising controversial top gilded wiki promoted

64
H HISTORY
From raw metal to legendary weapon, only the sharpest blade will prevail. Forged in Fire premieres Tuesday, April 11th on HISTORY. (www.history.com)
promoted by History_Official
promoted 13 comments share save hide report pocket

1
I'm a CS student teaching a seminar at UCLA on being cybersecurity-aware for all audiences from all backgrounds (no prior programming or CS form if you want to receive weekly updates on materials and slides! (docs.google.com)
submitted 1 day ago by kfrank

2
Looking for a Specific Math Class Online (Introduction to Real Analysis) (self.OnlineEducation)
submitted 9 days ago by joshben3478
1 comment share save hide report pocket

3
Trying to remember certain website (self.OnlineEducation)
submitted 13 days ago by erikmaxwell
3 comments share save hide report pocket

Hacker News
April 6 at 9:55pm Thursday, April 6, 2017 at 9:55pm ·

I'm a CS undergrad at UCLA teaching a seminar on cybersecurity for all audience
(Discussion on HN - <http://bit.ly/2nJXD4p>)

CS 88S Enrollment Form

My name is Frank Chen, and I am teaching a seminar at UCLA called CS 88S: Safety in the Cloud - Introduction to Cybersecurity in Spring 2017. This course is an intensive introduction to the field of cybersecurity. We will study a variety of topics that are important for a regular consumer of technology. This course has great relevance to our current society. Cyberattacks and data leaks are becoming more frequent. A national debate on the government's role in "letting us more important to democracy than an educated electronic" the same can be said for education in cybersecurity. It is more important than ever for everyone in the cybersecurity arena.

This is an online form for anyone not enrolled but interested in following along with the course. No programming or computer science background is required to understand the material - just excitement for a more cybersecurity-aware society! The seminar will weekly emails + resources.

*Required

Name (First, Last) *

Your answer

Email *

CS 88S Enrollment Form

https://docs.google.com/forms/d/e/1FAIpQLScgGUCbNFFfg6QuShzJAULcCueiXDq_eZKF1--ba9YRTVv6tTg/viewform?c=0&w=1

My name is Frank Chen, and I am teaching a seminar at UCLA called CS 88S: Safety in the Cloud - Introduction to Cybersecurity in Spring 2017. This course is an preliminary introduction to the field of cybersecurity. We will study a variety of topics that are important for a regular consumer of tech...

DOCS.GOOGLE.COM

news.ycombinator.com

Hacker News
new | comments | show | ask | jobs | submit | login

1. ▲ U.S. FCC chairman plans fast-track repeal of net neutrality: sources (reuters.com)
75 points by doctorshady 1 hour ago | hide | 42 comments
2. ▲ Machine learning without centralized training data (googleblog.com)
232 points by nealmueller 6 hours ago | hide | 48 comments
3. ▲ I'm a CS undergrad at UCLA teaching a seminar on cybersecurity for all audience (docs.google.com)
36 points by kfrank 2 hours ago | hide | 5 comments
4. ▲ Unsupervised sentiment neuron (openai.com)
490 points by gdb 13 hours ago | hide | 114 comments
5. ▲ FDA Authorizes Ten 23andme Genetic Health Risk Reports (23andme.com)
250 points by checkoutmygenes 13 hours ago | hide | 142 comments
6. ▲ Twitter refuses US order to disclose owner of anti-Trump account (reuters.com)
670 points by anigbrowl 8 hours ago | hide | 330 comments
7. ▲ Blink-dev - Intent to Ship: SharedArrayBuffer (groups.google.com)
76 points by okket 5 hours ago | hide | 26 comments
8. ▲ A Thank-You Note to the Hacker News

FRANK CHEN Spring 2017

Power of the Internet

▲ kablaa 1 day ago [-]

What kind topics will you be covering? What do you mean by "The Cloud?" That's kind of an catch-all term these days.

[reply](#)

* 4 points by kfrankc 1 day ago [-]

I have a course syllabus available here: http://kfrankc.me/cs88s/USIE_Syllabus.pdf

[reply](#)

▲ andmalc 1 day ago [-]

That's a sharp looking PDF. May I ask what software or template you used?

[reply](#)

▲ gravypod 1 day ago [-]

I'd assume LaTeX. The wizardry is strong with this one.

[reply](#)

▲ yeukhon 1 day ago [-]

I am betting on Microsoft Publisher. Isn't it hard to get the template right using LaTeX?

[reply](#)

▲ gravypod 7 hours ago [-]

> Isn't it hard to get the template right using LaTeX

Incredibly.

[reply](#)

▲ DavidJRobertson 1 day ago [-]

PDF metadata confirms that you are correct, it was MS Publisher 2013.

[reply](#)

Power of the Internet

▲ maerF0x0 1 day ago [-]

Some confirmation that this isnt fake:

<http://kfrankc.me/cs88s/> links to the same form. <https://github.com/kfrankc?tab=repositories> includes a photo of him and links to the same kfrankc.me

<https://scholar.google.com/citations?user=v2IJEd8AAAAJ&hl=en> Links to the same kfrankc.me

seems legit.

[reply](#)

▲ cgarduno1 1 day ago [-]

You can also check out the class schedule listed at UCLA's class listing.

https://sa.ucla.edu/ro/Public/SOC/Results/ClassDetail?term_c...

[reply](#)

Power of the Internet

▲ HillaryBriss 1 day ago [-]

i like the fact that the course number is 88. nice.

[reply](#)

▲ cgarduno1 1 day ago [-]

All courses at ucla that are taught by undergrads are 88S courses, just happens to be that way interestingly

[reply](#)

▲ OJFord 1 day ago [-]

> *All courses at ucla that are taught by undergrads are 88S courses*

So kfranc is the only CS UG doing it? (Since it's listed as CS88S.)

> *just happens to be that way interestingly*

Can you or GP explain why '88' is 'interesting', or something to 'like'?

[reply](#)

▲ HillaryBriss 20 hours ago [-]

In China, "Number 88 symbolizes fortune and good luck in Chinese culture" according to Wikipedia: https://en.wikipedia.org/wiki/88_%28number%29 which is why I thought it nice.

My original comment was downvoted and I didn't understand why. Now I think I know. I just learned that there's another really disturbing meaning of 88. It's used by Neo-Nazis as shorthand for "HH" since "H" is the eighth letter in the alphabet. (You get one guess what "HH" is shorthand for.)

That meaning is NOT nice. It's awful.

Sorry if my comment was interpreted to mean that I thought Neo Nazism or Hitler was nice. That is definitely not what I meant.

(What can I say? I've seen 88 in Chinese restaurants and stores. But I've never seen it used in a Neo Nazi way before. Ugh. Sorry folks.)

[reply](#)

<http://bit.ly/2okf8vS>

Power of the Internet

QUESTIONS

RESPONSES

1,390

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This is an online form for anyone not enrolled but interested in following along with the course!

No programming or computer science background is required to understand the material - just excitement for a more cybersecurity-aware society! I'll be sending out weekly emails + resources.

Power of the Internet



Hacker News



PIA

private**internet**access™



Agenda

- *Administrative*
- ***Review last week's material***
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- *Hollywood Hacking:*
The Good, The Bad, & The Ugly
- *Can we do better?*

Computers



Computers deal with *data*.

Computers are **deterministic**

Internet

A world map is shown in a light blue color against a dark blue background. Overlaid on the map is a complex network of white lines and nodes, representing the Internet's infrastructure. The lines connect various points across the continents, creating a dense web of connections. The background also features some faint, swirling patterns.

Internet brings everyone together.
Internet is nondeterministic.

CIA Principle



Confidentiality



Integrity



Accessibility

Agenda

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Hack

Hack?



Def: Maliciously taking advantage
of a system's CIA paradigms

Hack?

Def: A slang for innovatively solving a problem or making a product.

Hackathon?



Def: Programming competitions where students are encouraged to **build** anything they'd like. From websites to apps to hardware products etc.

Implicit Bias

Def: Bias in judgment and/or behavior that results from subtle **cognitive processes** (e.g., implicit attitudes and implicit stereotypes) that often operate at a level below conscious awareness and without intentional control.

UCLA Vice Chancellor Jerry Kang's
TED talk video:
<http://bit.ly/2oaM8Ek>

Implicit Bias

# 1	# 2	# 3
SLB	CFLTK	CFLTK
SPRND	HLMG	CFLTK
SLB	SPRND	SLB
SPRND	HLMG	CFLTK

Implicit Bias

# 1	# 2	# 3
GREEN	BLUE	GREEN
RED	YELLOW	YELLOW
PURPLE	BLUE	RED
GREEN	RED	PURPLE

Implicit Bias

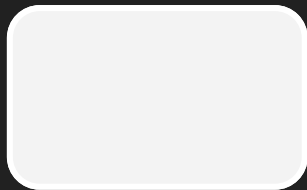
# 1	# 2	# 3
RED	GREEN	YELLOW
BLUE	GREEN	BROWN
RED	YELLOW	BLUE
BROWN	BROWN	BLUE

Implicit Association Test

Invented by

A. G. Greenwald

Programming



Implicit Association Test

Invented by

A. G. Greenwald

Hack

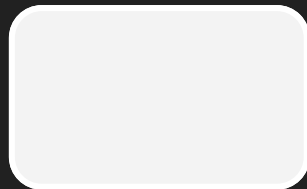
LEFT

Implicit Association Test

Invented by

A. G. Greenwald

safe
knowledgeable
protect
smart



Implicit Association Test

Invented by
A. G. Greenwald

danger
ominous
malicious
sly

LEFT

Implicit Association Test

Invented by

A. G. Greenwald

Programming

safe
knowledgeable
protect
smart

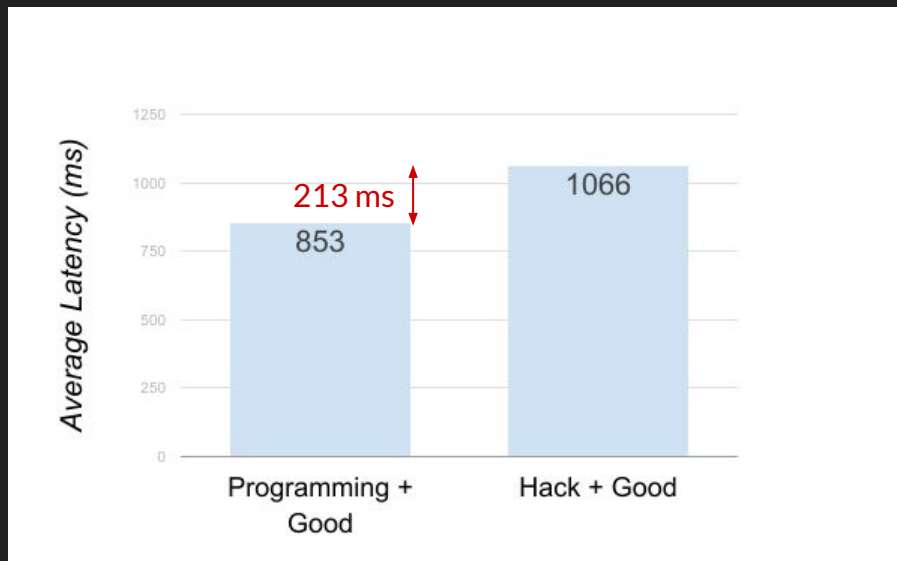
Programming

danger
ominous
malicious
sly

Implicit Association Effect

Invented by
A. G. Greenwald

Δ Average Latency
is a measure of
your bias!



*Numbers not accurate; visual purpose only

Hack?

MAR 27, 2017 @ 05:11 PM 49 VIEWS

The Little Black Book of Billionaire Secrets

Hackers In Epaulets: A Challenge To The Consensus on Russian Interference in the 2016 Election?

Hackers increase attacks on energy sector computers

By Collin Eaton | March 24, 2017 | Updated: March 25, 2017 12:01pm



[Johnson City](#)

Hackers crack into Johnson City Police's Twitter account

Cyber crime now under investigation

By: **News Staff**

Posted: Mar 27, 2017 05:26 PM EDT

Updated: Mar 27, 2017 05:26 PM EDT



Democrats step up calls that Russian hack was act of war

BY MORGAN CHALFANT - 03/26/17 06:00 AM EDT

9,465 COMMENTS

Just In...

9,195 SHARES



NATIONAL MARCH 24, 2017 7:00 AM

Were the hackers who broke into the DNC's email really Russian?

CIA

WikiLeaks: CIA hacked Apple devices in ways users cannot fix

Published March 24, 2017 - Associated Press



Election email hack coverage protected by First Amendment, but media missed opportunity to provide full context, professor says

Mon, 03/27/2017

N. Korea using hackers to rob banks to fund regime

Bank of America, World Bank, NYB Mellon among targets

Shannon Vavra 2 hrs ago

Dick Cheney: Russian cyber hack could be "an act of war"

Agenda

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Misrepresentation

CNN uses Fallout 4 screenshot in report on Russian hacking

Russian hackers most likely did not use Pip-Boys to disrupt the US presidential election.

Tech Culture



by Alfred Ng

January 3, 2017 6:55 AM PST
@alfredwing



CNN used this shot of Fallout 4 to show what hacking looks like.

CNN (Screenshot by Alfred Ng/CNET)



Fallout 4 features a hacking mini-game.

YouTube (Screenshot by Alfred Ng/CNET)

The Ugly: 90s Computer Hacking Supercut

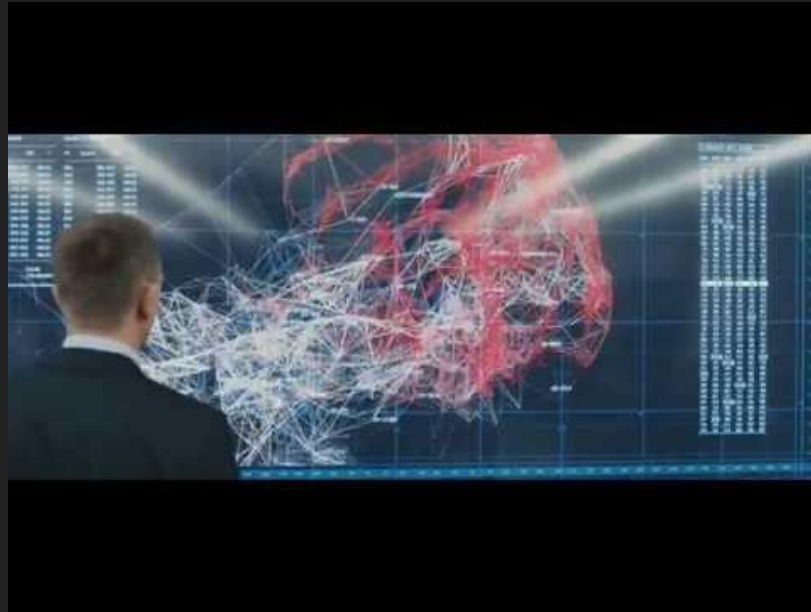


<http://bit.ly/2nYSt8T>

What was **ugly** about that?

- *Cheesy lines*
- *Horrible/Unrealistic CGI*
- *Black box hacking process*
- *Poor plot-driving method*

The Bad: Skyfall



<http://bit.ly/2o35e2z>

What was **bad** about that?

- *Elaborate Graphical Interface*
- *"What if you try this" cliché*
- *Unrealistic decryption*
- *"They hacked us" cliché*

The Good



<http://bit.ly/2kONbHi>

What was **good** about that?

- *Clear explanation of vulnerability*
- *Clear motivation for hacking*
- *Realistic props and computer screens*

MR. ROBOT VS SKYFALL 007

Simple Dialogue

Complex Back-and-forth

Real computer interface

Futuristic machine

Current-world

Fiction

[case] Hospital Hacking

- 3.6 million in BitCoins
- *"The fact that hackers were able to encrypt patient records doesn't necessarily mean they gained access to those files, but the goal of this type of cyberattack isn't to get to patient information; it's to make sure that the hospital can't get to it, either"*
- Known as **ransomware**

A Hospital Paralyzed by Hackers

A cyberattack in Los Angeles has left doctors locked out of patient records for more than a week. Unless the medical facility pays a ransom, it's unclear that they'll get that information back.

KAVEH WADDELL

FEB 17, 2016

TECHNOLOGY



TEXT SIZE



A hospital in Los Angeles has been operating without access to email or electronic health records for more than a week, after hackers took over its computer systems and demanded millions of dollars in ransom to return it.

The hackers that broke into the Hollywood Presbyterian Medical Center's servers are asking for \$3.6 million in Bitcoin, [a local Fox News affiliate reported](#). Hospital staff are working with investigators from the Los Angeles Police Department and the FBI to find the intruders' identities.

<http://theat1n.tc/2ntCdvp>

Even Worse?



<http://bit.ly/2ciVE1N>

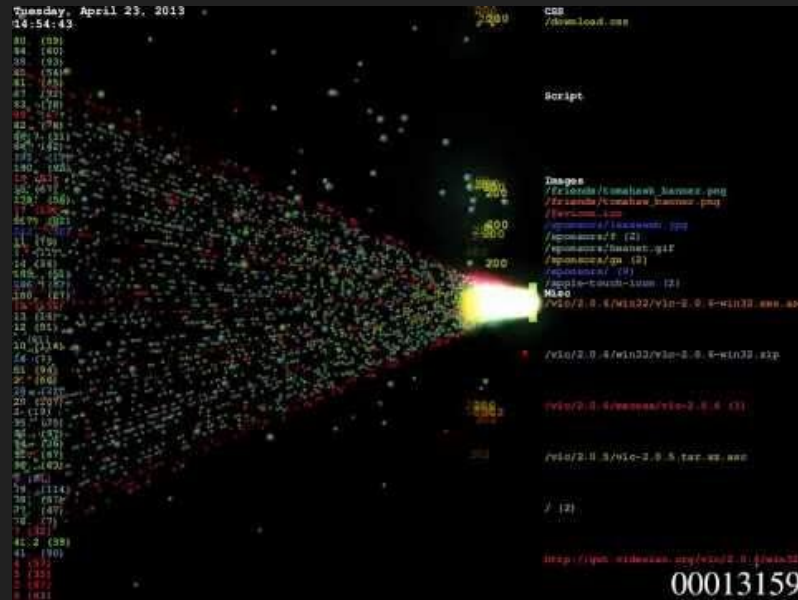
Even Worse?

- *loading GUI?*
- *start counterstrike?*
- *cats?*
- *"you are good but I am better"*
- *blinky boxes?*
- *cyber-nukes??*

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- ***Can we do better?***

Visualizing DDoS



<http://bit.ly/2or1nei>



Safety in the Cloud Tip

Your laptop
+ phone
should be
locked by
password

Photos

Photos of [redacted] [redacted] Photos Albums



Next Week...