Data Breach Exploration and Password Cracking

- Ajitesh Parihar, COSC, Okanagan College

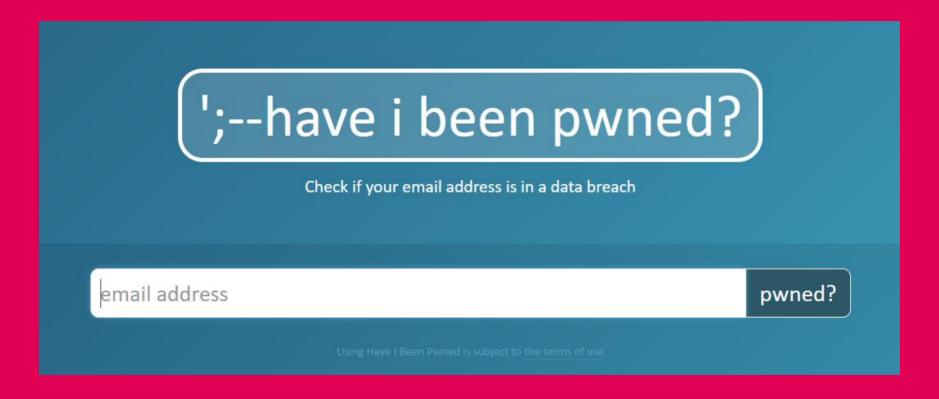


What is a Data Breach?





Are you a victim? - haveibeenpwned





Where are these leaks posted?



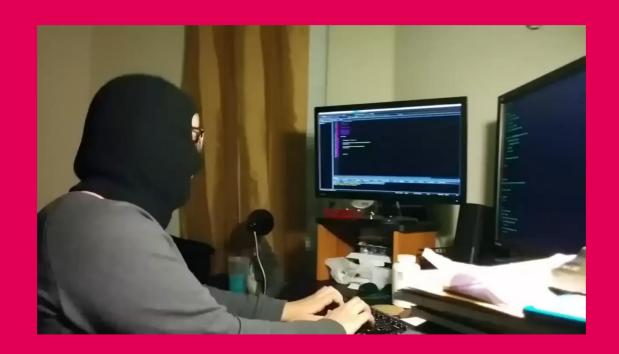


Which data breaches can we find?

```
We have a total of 15,415,572,882 Records from the following 977 Datasets, free for download once [002,034,178] | 2024 - (nan) LAUSD - Los Angeles Unified School District Database Database → Downloa [000,094,734] | 2024 - (tappware.com) Tappware (CSV) Database → Download Here! [003,062,335] | 2024 - (expandia.com.es) Expandia.com.es Database → Download Here! [031,152,842] | 2024 - (nan) Neiman Marcus Database → Download Here! [000,694,865] | 2024 - (questapp.in) QuestApp.in Database → Download Here! [000,277,954] | 2024 - (holicouriers.com.au) BHFCouriers Database → Download Here! [000,946,989] | 2024 - (null) Salvadoran Citizens Database → Download Here! [001,348,407] | 2024 - (pandabuy.com) Pandabuy Database → Download Here! [007,550,000] | 2024 - (boat-lifestyle.com) boAt Lifestyle India Database → Download Here! [002,848,677] | 2024 - (gianttiger.com) Giant Tiger Database → Download Here! [002,848,677] | 2024 - (gianttiger.com) Mr. Green Gaming Database → Download Here!
```

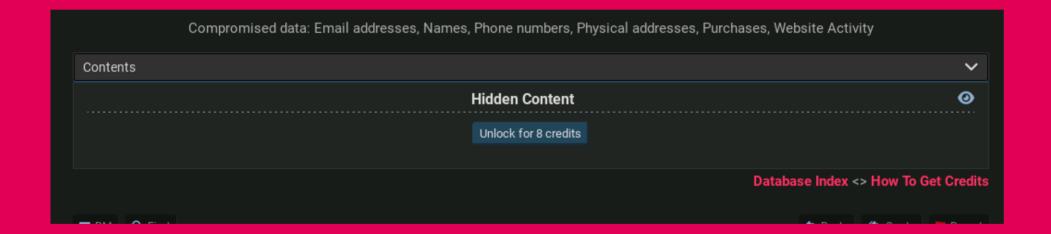


Using this data for crime



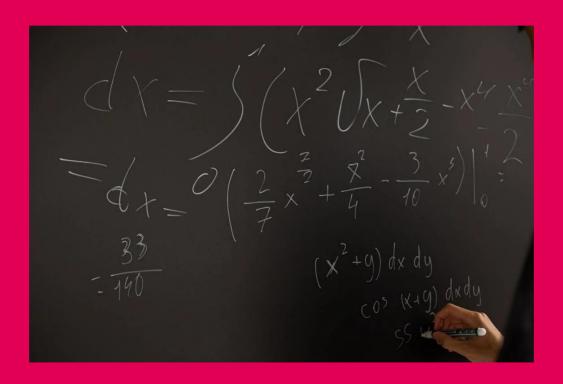


How much does this data cost?





Hashing Passwords to Deter Account Stealing





Example of what a hashed password looks like

```
research@pop-os:~$ sha256sum --help
Usage: sha256sum [OPTION]... [FILE]...
Print or check SHA256 (256-bit) checksums.

With no FILE, or when FILE is -, read standard input.

-b, --binary read in binary mode
-c, --check read SHA256 sums from the FILEs and check them
--tag create a BSD-style checksum
-t, --text read in text mode (default)
-z, --zero end each output line with NUL, not newline,
and disable file name escaping
```



Cracking Passwords using brute force





Why using common passwords is a bad idea: rockyou

basketball veronica sakura andrew chris adrian angels 888888 alexander tweetv adriana destinv flower cutie christian playboy iames 121212 hello banana savang elizabeth prince america hottie friend dancer tinkerbell jesus1 monica charlie crystal richard samantha celtic 112233 harbie zxcvbnm princess1 chel sea edward 555555 lovers oliver diamond teamo diana carolina iasmine samsung steven brandon freedom rangers 666666 louise angelo shadow kenneth orange melissa 789456 master eminem 999999 scooby matthew shorty carmen robert 456789



What should companies do?

- Follow standard practices
- Conduct regular security analysis
- Use modern hashing algorithms



What can you do?

- Password Managers: KeepassXC
- Multi-factor Authentication: Aegis
- Awareness of attack vectors



Thank you! Any Questions?

