

# IRI Final Presentation

Kaushik Devireddy

# Here's what I started with



## **Kaushik Devireddy (2021-2022)**

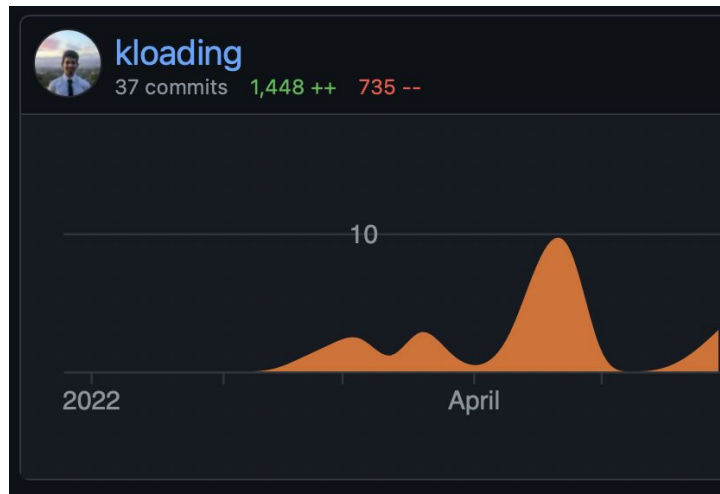
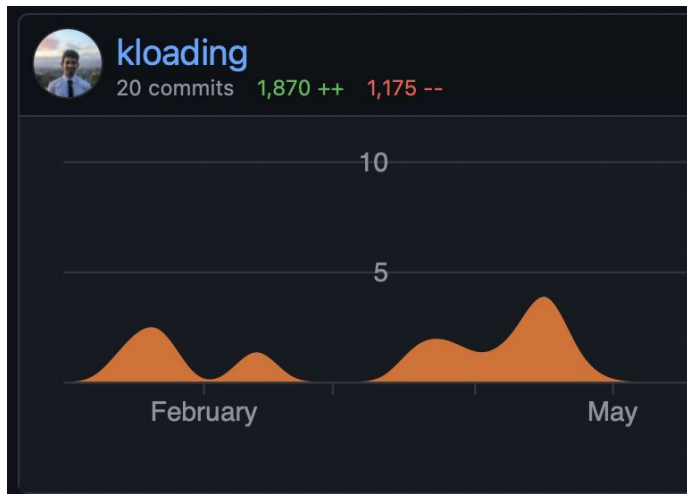
*Crypto Firewalls: Secure Standards for Connected Cryptocurrency Wallets*

Mentor: Venky Harinarayan

Year: Sophomore

Major: Computer Science

I wrote some code to pursue this idea



But more importantly, I learned to open-source

Fortunately for the community, this topic started receiving lots of attention.

Unfortunately for me, many people had the same idea I did and did it better.

#### Bug finding tools

- [Echidna](#) - Fuzzer for Ethereum smart contracts. Uses property testing to generate malicious inputs that break smart contracts.
- [Manticore](#) - Symbolic execution tool for Ethereum smart contracts that includes detectors for common security flaws
- [Mythril OSS](#) - Open-source security analysis tool for Ethereum smart contracts built around detector modules
- [Securify](#) - Static analysis tool from ChainSecurity
- [Slither](#) - Static analysis framework, written in Python, with detectors for many common Solidity issues

#### Verification tools

- [KEVM](#) - K Semantics of the Ethereum Virtual Machine (EVM)
- [Manticore](#) - Symbolic execution tool for EVM

I wasn't sure what to do, but I had a feeling the same idea could be applied to cloud environments

I submitted a last-ditch abstract to a security conference (SANS CloudSecNext) with a very rough idea

CloudSecNext2022

FEB 13

Dear authors,

We received your submission to CloudSecNext2022 (SANS CloudSecNext Summit 2022):

Authors : Kaushik Devireddy

Title : Low-hanging Logs: GCP & Azure Logs for Lazy People Number : 32

The submission was uploaded by Kaushik Devireddy <[kdev@g.ucla.edu](mailto:kdev@g.ucla.edu)>. You can access it via the CloudSecNext2022 EasyChair Web page

<https://easychair.org/conferences/?conf=cloudsecnext2022>

Thank you for submitting to CloudSecNext2022.

Best regards,

EasyChair for CloudSecNext2022.

However, I wasn't feeling very motivated, having to start from scratch

# Speaker Confirmation Details - 2022 SANS CloudSecNext Summit



Korrigan

MAR 25

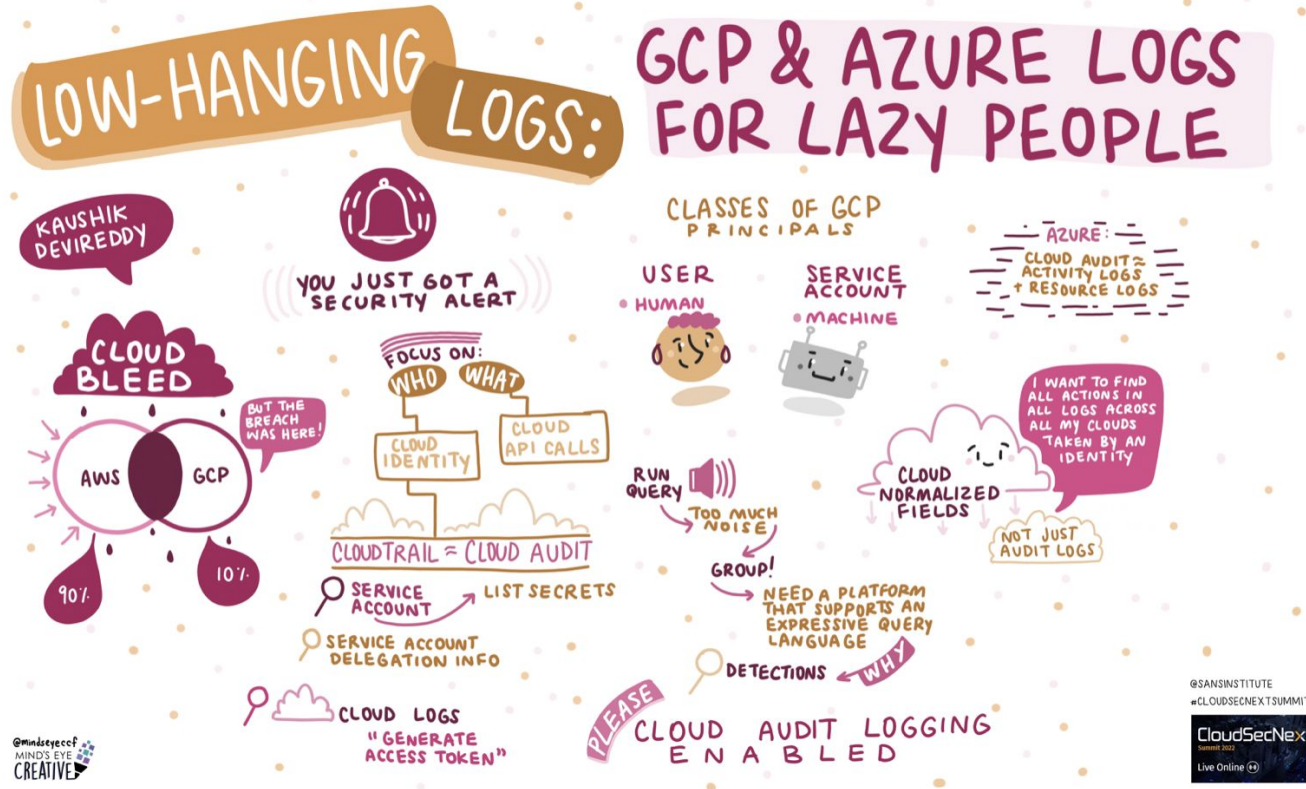
Hi Kaushik,

We are so pleased to confirm you as a speaker for the 2022 SANS CloudSecNext Summit! As we move forward, I wanted to send you all necessary speaker information to better prepare you for the program.


But then I got accepted, so I had to work really fast to code a prototype and create a presentation




**Kaushik Devireddy**, University Researcher, Dassana



**Kaushik Devireddy**, University Researcher, Dassana












e... ▾  # hallway-kaushik-devireddy ▾ Follow up with Kaushik after the talk

 **Steve-o Mitchell** 11:53 AM  
replied to a thread: [Minecraft HYPE!](#)  
Instant street cred.  
 1 


 **Majed Haj Mohamad** 11:53 AM  




 **Aaron Lancaster** 11:53 AM  
Yay!  
Logs or it didn't happen!  
 3  1 

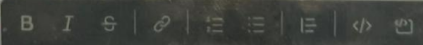
 **Eric Johnson (SANS)** 11:57 AM  
I'm digging that UCLA flag in the background  
 3 

Is that the equivalent of whoami for secrets exfil 🤔







★ Pinned by AJ Yawn (SANS)

 **Carsten** 12:08 PM  
What are your thoughts on using Azure Log Analytics and Azure Sent




 **Dennis Chow** 12:08 PM  
nice, open source detections. i wonder if they're going to also export  
 1 reply Today at 12:25 PM









Send a message to #hallway-kaushik-devireddy




     




# hallway-kaushik-devireddy ▾ Follow up with Kaushik




 **Raymond Gould** 12:13 PM  
Excellent presentation...ty!  
 1 




 **Megan R** 12:14 PM  
great job!  
 1 

 **Patsy Anderson** 12:14 PM  
great talk, thanks!  
 1 

 **Brian D** 12:14 PM  
Very good presentation!  
 1 

 **Carsten** 12:14 PM  
great presentation!  
 1 

 **Marcos** 12:14 PM  
[@Kaushik Devireddy](#) Amazing work!  
 1 

 **Siddhartha Rao** 12:14 PM  
Great presentation [@Kaushik Devireddy](#) !  
 1 



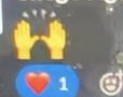
# hallway-kaushik-devireddy Follow up with Kaushik



12:16 PM



Chege Ngigi 12:16 PM



Joshua Smith 12:16 PM

what language is the tool on github written in? Where is it?

K 1 reply Today at 12:29 PM



Michael Mulqueeny 12:17 PM

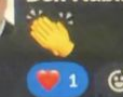
Great talk!



Matthew Burger 12:17 PM



Ben Habing 12:17 PM



Majed Haj Mohamad 12:17 PM

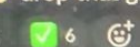


# hallway-kaushik-devireddy Follow up with



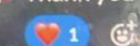
Siddhartha Rao 12:17 PM

drop that github repo Kaushik 🙄



Tina Schmidt 12:17 PM

Thank you - great talk



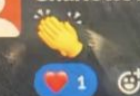
Marcos 12:17 PM



Kevin Henninger 12:17 PM



Charlotte Johnston 12:18 PM



Jonathan Pilgrim 12:18 PM

Nice, thanks



Carlo Zingaro 12:19 PM

Thanks great presentation.

# hallway-kaushik-devireddy Follow up with Kaushik after the talk



Charlotte Johnston 12:18 PM



Jonathan Pilgrim 12:18 PM

Nice, thanks



Carlo Zingaro 12:19 PM

Thanks great presentation.



James Carroll 12:19 PM

Thank you for this talk. I'm fearful of how my organization is going to arms me with something.



2 replies Last reply today at 12:22 PM



Joshua Smith 12:19 PM

@Kaushik Devireddy Amazing work! what language is the tool on github written in?



Kaushik Devireddy 12:20 PM

I got more motivated from the positive feedback, so I extended my idea to verify AWS environments and submitted to a much more competitive conference

Your proposal: Formal Methods for Cloud Security: Overhyped? ✓ ⌚ 📧



# Update on your fwd:cloudsec submission

We've completed the first round of reviews of fwd:cloudsec papers, and while your paper "Formal Methods for Cloud Security: Overhyped?" was not in the first batch we accepted, we'd like to encourage you to revise &

This talk was the most polarizing we discussed. The topic area - a counterintuitive, rabble-rousing takedown of something AWS hypes relentlessly - is very on brand for this conference; we can easily imagine

However, "extraordinary claims require extraordinary evidence" and so we'd like to see this talk either develop its thesis more, or be more clearly balanced (after a rabble-rousing pitch up front). While Tiros and Zelkova

## Your proposal: Stop Guessing and Start Proving: Demystifying AWS Zelkova



fwd:cloudsec

← → MAY 22

fwd:cloudsec

## Your proposal: Stop Guessing and Start Proving: Demystifying AWS Zelkova

Hi!

We have received your proposal "Stop Guessing and Start Proving: Demystifying AWS Zelkova" to fwd:cloudsec. We will notify you once we have had time to consider all proposals, but until then you can see and edit your proposal at <https://pretalx.com/fwd-cloudsec-2022/me/submissions/RVRGHQ/>.

I got accepted 2 days ago!

I will be presenting in Boston on July  
25th (right before AWS Re:Inforce)

Thank you!

Professor Kleinrock  
Venky  
Bill