

# Ankur Tyagi

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I'm an infosec enthusiast with a strong background in network security (IDS/IPS), anti-malware technologies (EDR/XDR), research methodologies and innovation.

## Experience

- **Cisco Talos Intelligence Group** Aug/2023 - Present  
• **Security Research Engineer, Network Threat Detection & Response (NTDR)** (2 yrs 4 mos)
  - Detection Engineering and Vulnerability Research
  - Snort & ClamAV
- **Qualys Inc.** Apr/2015 - Aug/2023  
• **Principal Engineer, Threat Research Unit (TRU)** (4 yrs 8 mos)
  - Breach Simulation, Security Control Validation, Attack Surface Mapping, Asset Remediation Trendmap
  - Threat Intelligence feeds evaluation and aggregation, False Positive validation, event whitelisting, risk scoring, rule parsers and converters
  - MITRE ATT&CK TTP correlation (adversary killchain), quantification and scoring
  - Technologies: Python, Shell, Unix, Windows, AntiMalware, Yara, IoC, EDR, XDR, Threat Intelligence  
• **Research Engineer, Malware Lab** (3 yrs 10 mos)
  - Research towards automated aggregation of threat behavior and generic (Yara/IoC) rule creation
  - Lead for multiple in-house automation projects (sourcing/filtering/scanning of malware samples)
- **Juniper Networks** Apr/2012 - Feb/2015  
• **Security Research Engineer, Network Signatures Team** (2 yrs 11 mos)
  - Maintaining in-house automation tools for coverage against multiple exploitation frameworks
  - Signature development for Juniper's security portfolio devices against latest vulnerabilities and exploits
  - Regular updates of active signatures to increase accuracy and coverage against evolving evasion techniques
  - Tech/Domain: Python, Shell, Unix, Windows, IDS, IPS
- **SecurView Systems** Dec/2010 - Apr/2012  
• **Information Security Engineer, IntelliShield Alert Manager Team** (1 yr 5 mos)
  - Vulnerability Researcher / Security Analyst for the Cisco Security IntelliShield Alert Manager Service
  - Active member of the Secur-I Research Group with monthly publication of critical vulnerability assessments
  - Tech/Domain: Python, Shell, Unix, Windows, Vulnerability Research

## Research

- Quantification of Security Events using Behavioral, Analytical and Threat Intelligence Attributes Dec/2021
- Quantification of Adversary TTPs Using Threat Attribute Groupings and Correlation Nov/2021
- Attack Path and Graph Creation Based on User and System Profiling Jul/2019
- Attack Kill Chain Generation and Utilization for Threat Analysis Apr/2019
- DSL for Simulating a Threat-Actor and Adversarial TTPs Apr/2019
- DSL for Defending Against a Threat-Actor and Adversarial TTPs Apr/2019
- DSL for Threat-Actor Deception Apr/2019
- Asset Remediation Trend Map Generation and Utilization for Threat Mitigation Apr/2019
- Method and Apparatus for Intelligent Aggregation of Threat Behavior Apr/2017
- Using A Probability-based Model To Detect Random Content In Network Traffic Dec/2014
- Deobfuscating Scripted Language For Network Intrusion Detection Sep/2014

## Media

- Hackers of India, [Hacking Archives of India](#) Oct/2020
- Bossie Awards 2017 - The best networking and security software, InfoWorld Sep/2017
- Visual network and file forensics with Rudra, [HelpNet Security](#) Sep/2017
- Rudra - Framework for inspection of network capture files, [HelpNet Security](#) Sep/2015
- Network Sorcery with ChopShop and Libemu, [PenTest Magazine](#) Mar/2014

## Talks

- **svachal + machinescli**

These tools are useful for creating and learning from CTF writeups

- DEF CON 30 Demo Labs

13/Aug/2022

- **Breach and Attack Simulation**

Automated simulation of adversary TTPs mapped to MITRE ATT&CK framework

- Qualys Security Conference 2018 - First Look Showcase

14/Nov/2018

- **Angad - Malware Detection using Multi-Dimensional Visualization**

Angad is a tool that can perform visual malware clustering using Hilbert Curves

- SecTor 2018
- BSides Zurich 2018
- GrrCON 2018
- DEF CON 26 Demo Labs

13/Oct/2018

14/Sep/2018

07/Sep/2018

11/Aug/2018

- **Visual Network and File Forensics**

This presentation showcases the effectiveness of visual tooling for malware and file-format forensics

- DEF CON 25 Packet Hacking Village
- Virus Bulletin 2017

29/Jul/2017

(could not attend)

- **Rudra - The Destroyer of Evil**

Rudra provides a framework for exhaustive analysis of PCAP and PE files

- DEF CON 24 Demo Labs
- Black Hat USA 2016 Arsenal
- Black Hat Asia 2016 Arsenal
- Black Hat EU 2015 Arsenal
- DEF CON 23 Demo Labs
- Black Hat USA 2015 Arsenal

06/Aug/2016

03/Aug/2016

31/Mar/2016

13/Nov/2015

08/Aug/2015

05/Aug/2015

- **Flowinspect - Network Inspection Tool on Steroids**

Flowinspect is a tool for network monitoring and inspection purposes

- Black Hat USA 2014 Arsenal
- Nullcon 2014

06/Aug/2014

14/Feb/2014

## Portfolio

### Google Scholar

- Citations: 154
- h-index: 7
- i10-index: 4

### GitHub

- Rank: S (top 25%)
- Commits: 16.4k
- Followers: 179
- Pull Requests: 16
- Stars: 395
- Languages: python/c/assembly/shell/tex

### StackOverflow

- Reputation: 1915
- Impact: ~634k people reached
- Badges: gold:2/silver:16/bronze:18

## Certifications/Academics

- Generative AI for Everyone

Nov/2024

- Attacking and Defending Azure Cloud: Beginner's Edition

Mar/2023

- Amateur Radio Operator (KN6VLB)

Aug/2022

- GIAC Penetration Tester (GPEN)

Mar/2012

- Cisco Certified Network Security Associate (CCNA)

Jan/2010

- **M.Tech Software Systems, BITS-Pilani**

Dec/2014

Thesis: Rudra - Framework for Automated Inspection of Network Flows

- **BE Information Technology, Pune University**

Jul/2010

Thesis: Insider Threats - Research on ARP Security Flaws and Solutions

Last update: 08/Jan/2026