

Abhinav Sharma

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Software Engineer with 6 years of industry experience with C & C++ programming language, Shell scripting, Linux development, Docker, Kubernetes, Embedded development, and WAN optimization. Highly familiar with a wide variety of security, networking, distributed systems, cloud computing, multitenancy, system programming and operating system software.

TECHNICAL SKILLS

- C/C++ programming
- Linux/Unix System programming
- Data Structures and Algorithms
- Cloud Computing
- Service Mesh
- Docker/Containers/K8s

ORGANIZATIONAL EXPERIENCE

F5 Networks (Software Engineer III), Hyderabad

Dec 2018 - Present

- Developed WAF security features in Volterra Envoy Proxy.
- Added TCP/UDP filters to handle EDNS(0) extensions to help improve DNS scalability.
- Worked in Traffic Classification (DPI) module to analyze, classify and configure policies on network traffic.
- Worked in Encrypted Video Classification module for detection of encrypted OTT traffic.
- Developed DFA signatures for VPN and other encrypted applications.

Akamai Technologies (Software Engineer II), Bangalore

Nov 2017 – Dec 2018

- Improved plugin data processing time by 30% for better real-time visibility into online streaming.
- Python script for check listing of health of components.

Akamai Technologies (Software Engineer), Bangalore

Jun 2015 – Oct 2017

- Developed Walled Garden feature to force upgrade non-compliant devices.
- Code scripts to diagnose the hardware components and report errors to user.
- Designed the Web UI to report statistics for Network Metadata Visualization.
- Designed and developed WCCPv2.0.
- Implemented API to detect HTTP downloads using Content-Disposition header.
- Implemented API to classify traffic flow as HTTP/2.
- Design, code, and integrate software for Linux platform.

Akamai Technologies (Software Engineer Intern), Chennai

Jan 2015 - May 2015

- Supported in protocol detection for a traffic flow.
- Designed a Finite State Machine algorithm to detect the FTP flows.

PROJECTS	TECHNOLOGY USED	FEATURES IMPLEMENTED
<u>Envoy Proxy WAF filter</u>	C++, K8s, Docker, EnvoyProxy	<ul style="list-style-type: none"> Worked on filtering and monitoring HTTP traffic using Envoy proxy as sidecar.
<u>GTP-U Detunneling</u> decapsulate and process GTP-U traffic using transparent proxy.	C, C++ Language, Free5GC, libgtpnl, Wireshark	<ul style="list-style-type: none"> Created a transparent proxy module to decapsulate and process GTP-U 5G traffic
<u>Encrypted Video Classification</u> To detect resolution and statistical metrics from encrypted video streams	C, C++ Language, Wireshark	<ul style="list-style-type: none"> Detection of resolution and statistical information of video streaming platforms like YouTube, Netflix, Prime Video, Hulu, etc..
<u>Network Traffic Classifier (CEC)</u> To improve performance and stabilize existing code of network traffic classifier.	C, C++ Language, Wireshark	<ul style="list-style-type: none"> Detection of all TCP, UDP and other protocol-based applications VPN apps traffic classification
<u>Media Analytics</u> is a cloud-based, self- service solution that provides visibility into online video performance, quality of experience, and audience behaviour through monitoring crucial metrics that power media business decisions.	C, C++, SQL, Shell/Bash Script, Python	<ul style="list-style-type: none"> Improvement in real-time plugin data processing Check-listing script for components health
<u>Branch Accelerator</u> cloud networking solution that improves application performance and control with WAN capacity offloading in branch locations.	C, C++, SQL, Shell/Bash Script, Python	<ul style="list-style-type: none"> Walled Garden Feature Hardware Diagnostics (Both Hardware and VM)
<u>Network Metadata Visualization</u> continuous network traffic monitoring to analyze and report user activity on network	Node.js, D3.js, jQuery, HTML, SVG, CSS, SQL, Shell script	<ul style="list-style-type: none"> Birds eye on distributed systems by Stats Reporting
<u>WCCP (Web Cache Communication Protocol) v2.0</u> specifies interactions between one or more routers and one or more web-caches.	C Language, SQL	<ul style="list-style-type: none"> WCCPv2.0 Network Configuration
<u>HTTP Proxy On-Ramp</u> This gives the procedure to modify a Network Edge system to enable using HTTP Proxy as an on-ramp, instead of having to use a physical or virtual Sahara system.	Linux, Shell scripting	<ul style="list-style-type: none"> POC for HTTP Proxy as an on-ramp

EDUCATION

B. Tech, CSE	8.9	VIT, Vellore
HSC, CBSE	74%	DAV, Jaipur
SSC, CBSE	81%	DAV, Jaipur